

From Climate Change to Climate Action to Climate Justice: An Ecological Neo-Gramscian Analysis of Ecosocialism's Potential

by

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A dissertation in the fulfilment of the requirements for the degree of Doctor of
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September 2017

Declaration of Originality

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Signed:

Date: 14 September 2017

Acknowledgements

First and foremost, I would like to express my deepest appreciation for the guidance and support so competently, consistently and selflessly provided by my primary supervisor, Associate Professor Fred Gale. In our many weekly discussions and through his thoughtful reviews of my written drafts, Fred's feedback not only motivated me by introducing different perspectives on the issues I explore in this research project, but also consistently challenged me to question my assumptions and justify my arguments. In doing so, Fred helped me develop a more sophisticated analysis, and for this I am very grateful. Fred admirably achieved all this while simultaneously ensuring that I had the intellectual space to reach my own conclusions, and all arguments and views presented in this dissertation are entirely my own. My gratitude for Fred's supervision extends to the University of Tasmania for employing such an excellent supervisor and for generously providing the Tasmania Graduate Research Scholarship, the additional funding to subsidise the travel I undertook for fieldwork, and the facilities and support services without which I would not have had the resources to conduct this research project. I also thank my secondary supervisor, Professor Richard Eccleston, for his input in the final version of this dissertation.

I am deeply indebted to my partner and best friend, John Studholme, who supported me in every way possible throughout my studies. Without John's encouragement, patient care, and reassurances, it is unlikely that I would have either embarked on or completed this journey. John's unwavering support took many forms, including participating in many discussions with me that challenged my assumptions and identified arguments that did not make sense. In addition, and crucially for both my health and this research project, John became an expert at just generally calming me down when the issue of climate change became emotionally overwhelming. In effect, as well as providing essential practical and emotional support throughout the lifetime of this research project, John acted as an informal additional 'supervisor,' engaging in extensive discussions with me about the issues I analyse and providing valuable feedback that helped me present my ideas more clearly and logically; thank you, John.

I was very fortunate to have had yet another extremely competent informal ‘supervisor’: my daughter, Dr Sky Croeser, who encouraged me throughout these studies and also reviewed written drafts, providing invaluable feedback that helped me stay on topic. In addition, I would like to thank the rest of my family for their unconditional support; as always, my son Kyle, and my parents, brother, and sister-in-law provided the encouragement and stability I need to succeed in all my endeavours. I am particularly grateful to my parents, Tony and Roula Gregoriadis, who instilled in me the important values that inform this research project: a dedication to truth and knowledge, and a deep caring for other people. One of the most important habits my father helped me develop as he listened to radio news broadcasts every hour on the hour, was that of paying attention to my world. I am very grateful to him for thereby provoking a lifelong interest in current affairs that led, indirectly, to my awareness of contemporary global challenges and hence to this research project.

While it is not possible to acknowledge and thank everyone I am indebted to for contributing to my intellectual development, and hence to this research project, I feel compelled to acknowledge the important contributions of Professors Tom Lodge and Eddie Webster, two of the academics who introduced me to critical perspectives during my undergraduate studies in Political Science and Industrial Sociology at the University of the Witwatersrand in the late 1970s and early 1980s. It is through their efforts and competent guidance, as well as that of my good friend, Daryl Glaser (now also an Associate Professor at our alma mater) that I first learned how to critically analyse not only the apartheid society that prevailed in South Africa at that time, but also how to apply the analytical power of the critical Marxist perspective more widely, to issues that include the subject of this research project. Thank you Tom, Eddie and Daryl.

I would also like to thank my interviewees, who gave so generously of their valuable time to respond to my questions; in particular, I am grateful to Ian Angus for setting aside time for two interviews as well as less formal discussions in between his Australian conference presentations in 2016. Other individuals I am indebted to and would like to thank for their attention, caring, support and

encouragement throughout the challenges of our studies include members of my PhD cohort, Daria Varenova, Dain Bolwell, Laura Ripoll Gonzales, and Melissa Belle; our exchanges about the travails we encountered throughout this journey helped me immensely by reminding me that I was part of a community of scholars, thereby diminishing my feelings of isolation and providing much-needed camaraderie as well as many interesting conversations and some respite from the seriousness of the challenges I explore in this research project.

Finally, and most importantly, I would like to extend my empathy to the millions (perhaps billions) of people who, through no fault of their own, will suffer the devastating effects of anthropogenic global warming. It is the thought of what the poor, the young, and future generations will have to endure that motivated me to continue focusing on identifying the causes of, and socially just solutions to, the existential and exceedingly distressing issue of anthropogenic global warming and the catastrophic effects of the climate change and 'extreme weather' disasters it causes.

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List of Acronyms

AGGG	Advisory Group on Greenhouse Gases
APEC	Asia-Pacific Economic Co-operation
AR4	Fourth Assessment Report of the IPCC
AR5	Fifth Assessment Report of the IPCC
AR6	Sixth Assessment Report of the IPCC
ASEAN	Association of Southeast Asian Nations
BLF	Builders Labourers Federation
CAN	Climate Action Network
CAN-I	Climate Action Network International
CBDR	Common but Differentiated Responsibilities
CDM	Clean Development Mechanism
<i>C/N!</i>	Climate Justice Now!
COP	Conference of the Parties
CSO	Civil Society Organisation
EDF	Environmental Defense Fund
EIN	Ecosocialist International Network
ENGO	Environmental Non-governmental Organisations
EPA	Environmental Protection Authority (US)
ETS	Emission Trading Scheme
EU	European Union
FAO	Food and Agricultural Organisation
FAR	First Assessment Report of the IPCC
FDI	Foreign Direct Investment
FoE	Friends of the Earth
FoE-I	Friends of the Earth International
GATT	General Agreement on Tariffs and Trade
GBR	Great Barrier Reef
GCC	Global Climate Coalition
GFC	Global Financial Crisis of 2007/8
GHG	Greenhouse gas
GJM	Global Justice Movement
GPE	Global Political Economy
IAC	InterAgency Council
IBRD	International Bank for Reconstruction and Development
ICSU	International Council for Science
ICT	Information and Communication Technology
ILO	International Labor Organisation
IMF	International Monetary Fund
IMS	International Monetary System
INDCs	Intended Nationally Determined Contributions
IO	International Organisation
IPCC	Intergovernmental Panel on Climate Change
IR	International Relations
IS	Islamic State
ITWF	International Transport Workers' Federation

JI	Joint Implementation
LULUCF	Land Use, Land Use Change and Forestry
MENA	Middle East and North Africa
MERCOSUR	Common Market of the South
MHS	Method of Historical Structures
MIT	Massachusetts Institute of Technology
MRV	Monitoring, Reporting and Verification
NAFTA	North American Free Trade Agreement
NASA	National Aeronautics and Space Administration
NATO	North Atlantic Treaty Organisation
NGO	Non-governmental Organisation
OECD	Organisation for Economic Co-operation and Development
OPEC	Organisation of Petroleum Exporting Countries
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SAR	Second Assessment Report of the IPCC
SCNCC	System Change Not Climate Change
SEI	Stockholm Environment Institute
SMO	Social Movement Organisation
SSA	Social Structure of Accumulation
SPM	Summary for Policymakers
TAR	Third Assessment Report of the IPCC
TCC	Transnational capitalist class
TNC	Transnational corporations
TUED	Trade Unions for Energy Democracy
UN	United Nations
UNCHE	United Nations Conference on the Human Environment
UNCSD	United Nations Conference on Sustainable Development
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
UNHCR	United Nations High Commissioner for Refugees
WCC	World Climate Conference
WCED	World Commission on Environment and Development
WEF	World Economic Forum
WG	Working Group
WHO	World Health Organisation
WMO	World Meteorological Organisation
WRI	World Resources Institute
WSF	World Social Forum
WTO	World Trade Organisation
WWF	World Wildlife Fund

Abstract

The world confronts an interlinked ecological, economic, social, and political crisis crystallised in the issue of climate change. The failure of governments acting alone and through international institutions to effectively address the climate crisis has led to the growth of a distinct climate movement within civil society whose broad aim is to bring about the changes required to mitigate anthropogenic global warming.

This dissertation examines the role that ecosocialists are playing within the broader climate movement. Utilising a modified neo-Gramscian perspective that builds on the work of Robert Cox and incorporates the global political economy as a category *within* the Earth's biosphere, the dissertation provides a critical ecological political economy account of the shift from the Holocene to the Anthropocene in the context of post-war, US-led 'neoliberal globalisation.'

Building on extensive literature reviews in a range of different discipline areas including the ecosocialist literature, the dissertation also draws on new primary data in the form of online audio-visual recordings of ecosocialist and scientific meetings and conferences and debates between ecosocialists published on websites. This material is supplemented by interviews with ecosocialists and climate activists undertaken as a participant observer in a number of climate movement-related protest events, including at the 2015 Paris Climate Summit.

The study confirms the value of ecosocialists' analyses of the neoliberalising global political economy that global capitalism does, indeed, result in multiple interconnected ecological, economic, social, and political crises. Focusing specifically on the climate crisis, it describes the origins and operations of the primary institutions established to address anthropogenic global warming (the Intergovernmental Panel on Climate Change and the United Nations Framework Convention on Climate Change) and analyses how the failure of governments working through these institutions to mitigate global warming resulted in the development and growth of the climate movement. Identifying a bifurcation of the movement into a reform-oriented climate action wing and a more system-critical climate justice wing after the 2007 Bali Climate Summit, the dissertation then studies

the key role being played by ecosocialists in the movement's more radical climate justice wing.

Using Gramscian concepts such as 'war of position,' 'passive revolution' and '*trasformismo*,' the dissertation evaluates both the ecosocialist strengths and the challenges these actors face in participating in and influencing the broader climate movement. The study concludes by describing some of the limitations of the approaches adopted in conducting this research, engaging in a personal reflection on the research project, and proposing suggestions for further research.

Chapter One: Introduction and Overview

Today, humankind has begun to match and even exceed some of the great forces of nature in changing the biosphere and impacting other facets of Earth System functioning. In terms of fundamental element cycles and some climatic parameters, human-driven changes are pushing the Earth System well outside of its normal operating range.... the Earth System is now in a no-analogue situation, best referred to as a new era in the geological history of Earth, the Anthropocene.

(Steffen *et al.* 2004, p. 81)

The organic crisis of global capitalism in the Anthropocene

In the early 21st century, humanity faces a number of serious challenges whose origins can be traced back to developments in the years following World War II. In the post-war years, United States (US) government representatives and policymakers took the lead in working with their allies to establish a set of international institutions designed to manage and expand the global economy. The project of expanding the global economy received new impetus in the 1970s and 1980s when, under the leadership of the US and its allies, governments and policymakers around the world began implementing a series of measures that extended and intensified the spread of capitalist relations of production. These processes are frequently referred to in the literature as 'neoliberal globalisation,' and many analysts argue that they contribute to a variety of ongoing economic, political, and social crises that include growing inequalities and democratic deficits and result in widespread social dislocation, insecurity and conflict. Adopting a critical perspective in this dissertation, I argue that the most significant effect of the extension of global capitalism is the planetary-wide ecological crisis caused by this system's inherent and insatiable drive for economic growth.

The Anthropocene

The environmental damage caused by the expansion of production, trade, and consumption is now so widespread and severe that many Earth System scientists argue we have left the Holocene, the geological epoch that provided abundant natural resources and stable climatic patterns amenable to the rise and flourishing of human civilisations, and now live in a new geological epoch that they propose

naming the Anthropocene, or ‘the Age of Humanity.’¹ The Anthropocene is characterised by a ‘phase shift’ in the Earth System caused by human activities that have disrupted the Earth’s major biogeochemical cycles so profoundly that we are now at risk of crossing several ‘planetary boundaries’ or ‘tipping points’ that could render the planet uninhabitable for many life forms, including humans (Biermann *et al.* 2012; Hamilton 2017; Hansen *et al.* 2013; Steffen *et al.* 2011; Steffen *et al.* 2015). The most serious change in the Earth System, and one that requires immediate action, is anthropogenic global warming. While natural events and natural cycles led to fluctuating average global temperatures in the Earth’s past, scientists have established that the current, unprecedentedly rapid rate at which the Earth is warming is due to anthropogenic greenhouse gas (GHG) emissions.

Official responses to the global warming crisis

GHG emissions are by-products of the widespread use of fossil fuels in the normal operations of global capitalism as it has developed historically. Fossil fuels are used to provide the energy that powers the production and transportation of goods and services. In addition to emitting vast amounts of GHGs into the atmosphere, the extension and intensification of capitalist methods of production and trading patterns across the globe have degraded and destroyed (and continue to threaten and destroy) many of the natural sinks that would otherwise absorb more of these emissions than they are currently able to. While government representatives and policymakers have co-operated in establishing international institutions such as the United Nations Framework Convention on Climate Change (UNFCCC) with the purported aim of addressing the issue of global warming, effective measures to make the necessary GHG emission reductions have not eventuated despite more than two decades of negotiations. The most recent major climate change negotiation meeting of the UNFCCC’s highest decision-making body, the Conference of the Parties (COP), was the twenty-first such meeting (COP-21) and occurred in Paris in 2015. While the Paris Agreement that was negotiated at COP-21 is lauded by many as a major success because of its ‘high ambition’ to aspire to limit average global temperature rise to 1.5°C above pre-industrial levels, scientists point out that

¹ ‘Anthropos’ is a Greek word meaning ‘person’.

even if all the states' voluntary pledges to reduce self-nominated amounts of GHG emissions declared in the Intended Nationally Determined Contributions (INDCs) were met, this will still result in an average global warming of between 2.6°C and 3.1°C by 2100 (Rogelj *et al.*, 2016).

The climate movement

The evident inability of official policymakers to effectively address the issue of anthropogenic global warming has led to the development of a climate movement comprised of a variety of environmental non-governmental organisations (ENGOS), non-governmental organisations (NGOs), social movement organisations (SMOs), and civil society organisations (CSOs). The loose coalition of disparate actors that work together within the broader climate movement in pursuit of their common aim of exerting pressure on officials to mitigate further global warming is divided along many lines, the most important of which is ideological. The ideological line of division revolves around the issue of whether it is possible to address the global warming crisis by reforming the current system of global capitalism or whether addressing this crisis requires fundamental 'system change.' In this dissertation, I refer to the wing of the climate movement that supports reforms as the 'climate action' wing, and to the group that calls for system change the radical 'climate justice' wing. Ecosocialists are a part of the climate justice wing of the climate movement, and this dissertation is about the role that ecosocialists play in current early 21st century social justice struggles, particularly as these relate to the global warming crisis. More specifically, I examine the role of ecosocialists within the climate movement with reference to their broad theoretical contributions as well as their input in debates involving the climate movement's strategy and tactics.

Given that the climate movement is only one of several actors engaged with the issue of climate change, I first locate this movement within the wider context of the global political economy in which there are a variety of actors. The actors I consider in my analysis include government representatives, international and intergovernmental institutions, policymakers at a variety of levels, scientists, SMOs, NGOs, organised labour, economic elites and their representatives, industry

representatives, and a variety of civil society actors who make up the climate movement as well as the broader global justice movement. Deploying the neo-Gramscian theoretical perspective adopted in this study, I emphasise power relationships between the different actors throughout the analysis as these are central to understanding the ability of different actors to achieve their aims.

Ecosocialist responses to the global warming crisis

As the primary climate movement actors I consider in my research are ecosocialists, it is important to establish at the outset what ‘ecosocialism’ is. There is, however, no single ‘ecosocialism’ and, as discussed at length in Chapter 7, there are many debates between ecosocialists about the extent to which the original writings of Marx and Engels focused sufficiently on environmental issues to justify considering the lineage of ecosocialist thought as extending back to classical Marxist ideas. Some theorists argue that classical Marxism is, in some respects, anti-ecological and describe ecosocialism as a body of thought that attempts to address these shortcomings by combining ‘red’ (Marxist) and ‘green’ (environmental) theories (for example, refer to Kovel 2007 and Löwy 2015). Other theorists, such as John Bellamy Foster (1992, 2000, 2002, 2009, 2012, 2014) and Paul Burkett (2005, 2014a, 2014b), argue that far from being anti-ecological, Marx’s writings are suffused with concerns about the environmental damage that results from capital’s exploitation of both labour and nature so that there is no need to incorporate a separate environmental theory into classical Marxism. Despite these debates, one idea that unites ecosocialists is that they view the current ecological, economic, political and social crises as all being interrelated and arising out of contradictions inherent in the capitalist mode of production. They would thus describe the current crises in terms of a single ‘organic crisis.’ Ecosocialists also share the view that addressing the current organic crisis of global capitalism will involve building post-capitalist societies that are “based on the best ecological principles” and are simultaneously socialist (Angus 2011, p. 6). Identifying and analysing ecosocialist contributions to efforts to achieve such system change in the context of existing power relations is a central aim of this dissertation.

Research Questions and Aims

One of my early research findings was that there is no identifiable ‘ecosocialist movement’; with the exception of an ‘ecosocialist coalition’ in Canada, that maintains the website *System Change Not Climate Change* (SCNCC 2017), the North American ecosocialists that had attracted my initial interest work with, and within, other established organisations and groups involved in a variety of social justice struggles. This understanding changed the focus of my research because many of the research questions I had originally thought to be relevant were inappropriate given that they related to issues such as organisational structures and recruiting strategies (the interview questions are shown in Appendix I). The central research questions I had posed, however, remained valid in modified form: “How do ecosocialists contribute to the efforts of the climate justice movement to mitigate climate change and simultaneously achieve climate justice, and how influential and effective are these contributions?” These research questions essentially incorporated the three main aims informing my research project:

- to develop an understanding of the relationship between ecosocialists and other actors within the climate movement;
- to develop an understanding of ecosocialist strategies and tactics; and
- to evaluate ecosocialist contributions to the climate movement, identifying current strengths and limitations as well as ways in which ecosocialist contributions could be strengthened in future.

In order to investigate these issues, I conducted extensive literature reviews and used a range of qualitative research methods, as discussed in more detail below.

Research Methodology and Methods

My research methodology takes the form of a single case study of the North American ecosocialist coalition, *System Change Not Climate Change* (SCNCC). Because ecosocialists work in loose coalitions with one another and with other activists and actors in the wider global justice movement, I also refer to individual ecosocialists who are not officially members of SCNCC when their contributions to debates are relevant.

The methods I adopt in answering the research question can be disaggregated into several activities, including evaluating ecosocialists' own understanding of the political economy of climate change and social injustice, and analysing various debates between ecosocialists as well as between ecosocialists and other climate movement activists. My attempts to determine ecosocialists' own understanding of the political economy of climate change and social injustice entailed conducting independent detailed investigations of the causes and consequences of the current ecological, economic, social and political crises. These investigations were undertaken by conducting literature reviews using a range of both primary and secondary sources of information. Primary sources of information included a number of reports by international organisations (IOs) such as the assessment reports published by the Intergovernmental Panel on Climate Change (IPCC). The secondary sources used in my literature reviews drew on books and articles published in a variety of academic discipline areas (as discussed in more detail later in this chapter). I then compared my literature review findings with various ecosocialist primary and secondary sources of information, such as the arguments presented in books written by ecosocialists (for example, Angus 2016, Burkett 2014, Foster 2000, Williams 2010) and articles published (and republished from other sources) on two major North American ecosocialist websites (*Climate & Capitalism* and *System Change Not Climate Change*). Other important primary sources of information analysed in conducting this research project include audio-visual recordings of meetings and conferences that are available on the worldwide web and debates between ecosocialists that are published on their websites. I also strategically interviewed key individual ecosocialists and climate movement activists and academics, either face-to-face or via Skype.² The interviews adopted a semi-structured format, and largely confirmed information readily available elsewhere (in books and on websites).

In addition to analysing the content of ecosocialist publications and presentations, I also attended a number of conferences as part of my research. These included both formal academic conferences and workshops (such as a workshop on Gramscian

² Before conducting the interviews, a full ethics application was submitted. The Tasmania Social Sciences Human Research Ethics Committee approved the ethics application on 29 July 2014 (Reference Number: H0014070).

theory held at the University of Sydney in 2015) and face-to-face and online conferences and meetings organised by social movement organisations (such as the 2016 Socialist Alliance's 'Socialism for the 21st Century' conference in Sydney and some of the online audio-visual discussions organised and hosted by SCNCC in 2016). I also conducted research as a participant observer at social movement events organised around the issue of climate change, including the 2014 People's Climate March in Melbourne and the Paris2015 climate justice movement protests and events. I saw my own participation within the climate movement as essential to this research project because, as is widely acknowledged in the social movement literature, researching social movements as a distant observer is both potentially unethical and is also likely to result in distorted research (Chesters 2012; Darlington & Dobson 2013; Dawson & Sinwell 2012; Lewis 2012; McCurdy & Uldam 2014; van der Riet 2008). More importantly, however, I participated in these events because I agree with academic theorists such as Reitan and Gibson (2012) that the severity of the impacts of global warming demand that we all engage actively in the issue: as prominent climate activist Naomi Klein (2014) insists, the global warming crisis 'changes everything,' and mitigating further climate change while working towards regenerating the planet so that it remains habitable requires the participation of everyone. The all-encompassing nature of the challenges we face that prompted my decision to participate in climate movement events is also reflected in my modification of the neo-Gramscian theoretical perspective so that it better suits the kind of research required in the Anthropocene.

Theoretical perspective and general approach

In this dissertation I adopt a modified neo-Gramscian critical methodology to analyse the motivations, strategies and impact of ecosocialists in contemporary climate movement politics. This critical perspective, which draws substantially on theory developed by Italian Marxist Antonio Gramsci, was developed within the academic discipline area of Global Political Economy (GPE) by one of the leaders in this field, Robert Cox. In this research project, I contribute to the development of critical GPE perspectives by modifying the neo-Gramscian perspective so that it is more appropriate for incorporating the Earth's biosphere as a major actor in its own right

in the global political economy.³ The necessity for this modification arises because the no-analogue situation we find ourselves in demands new perspectives on interactions between humans and the biosphere. As Clive Hamilton (2017) argues, the usual practice of social scientists incorporating ‘the environment’ only tangentially in their analyses is no longer adequate in the Anthropocene: the Earth System as a whole (including the humans who have now become a ‘geological force’) should inform our work as academics. These ideas are discussed in more detail in Chapters 2 and 3.

Given the requirements of the topic and the necessity that academic work in the Anthropocene be informed by holistic analyses, the general approach adopted in this dissertation is to draw on literature from a variety of discipline areas located within both the Social Sciences and the Natural Sciences. I therefore refer to literature from fields of study as varied as GPE, International Relations (IR), Economics, Political Theory, Legal Studies, Sociology, Philosophy, Environmental Studies, Social Movement Studies, Psychology, History, Geography, Climate Science, and Earth System science in my discussion. What is perhaps unusual in this approach is that while GPE analyses routinely incorporate knowledge from other Social Science discipline areas (Gill & Law 1988; Gill 1993; O’Brien & Williams 2010; Palan 2000; van der Pijl 2009), to date the Natural Sciences have not featured prominently in these analyses (although this is likely to change given the requirements of making academic work relevant to the challenges posed by the Anthropocene). In addition, because the nature of the topic requires it, I also incorporate references to newspaper and journal articles reporting on relevant current events; important changes in both the Earth System and in the human systems that are embedded in it are occurring at a very rapid pace, and I have tried to update my research as these changes unfolded over the lifetime of the project.

³ The IPCC (2014b, p. 1254) defines the biosphere as: “The part of the earth system comprising all ecosystems and living organisms, in the atmosphere, on land (terrestrial biosphere) or in the oceans (marine biosphere), including derived dead organic matter, such as litter, soil organic matter and oceanic detritus.”

Structure of the dissertation

This dissertation is organised into nine chapters (including this introduction). The overall approach in investigating the role of ecosocialists within the climate movement can be described as one that progressively works through different levels at which a variety of actors operate. Beginning with a ‘big picture’ view of the global political economy that constitutes a sub-system existing within the finite planetary-level Earth System, I provide an overview of some of the main actors shaping both systems. The human agents in my analysis include global economic and political elites, national and international institutions, official policymakers, state representatives, and civil society actors. Focusing my analysis on how these actors operate within the dynamic (and now unstable and unpredictable) Earth System that humans and their social systems are a part of, I discuss how the biosphere is both affected by, and in turn affects, the material conditions of human socio-economic activities. I then progressively narrow my focus on social movements such as the environmental movement and the climate movement, discussing the latter’s constituent parts. Another way of describing my approach is that I begin with an analysis of the global terrain that shapes many aspects of our lives and then successively narrow the focus down to the climate movement, and then to the radical climate justice wing of the climate movement where ecosocialists are located. At the same time, my discussion constantly refers to a variety of actors operating at local, national and global levels within the wider context of the Earth System they are embedded in.

Given the importance of the Anthropocene, I introduce the concept in Chapter 2, at an early stage in the development of my overall argument. According to many Earth System scientists, human impacts on the environment became significant at a planetary scale only since the mid-1940s, after which there was a ‘Great Acceleration’ in human impacts on the environment. This ‘Great Acceleration’ in human impacts is evident in data indicating sharp increases in socio-economic trends such as economic growth, population growth, primary energy use, and fertilizer consumption matching sharp growths in trends affecting the nature of the biosphere, such as GHG concentrations, ocean acidification, and tropical forest loss

since the 1950s (Steffen *et al.* 2015, pp. 86 – 87). The post-war period also marked the beginning of a new phase in the development of the global political economy, and modifications to this economy that began in the early 1970s were significant enough that traditional IR perspectives could not account for them. These developments are also discussed in Chapter 2, where I provide an overview of the global political economy established immediately after the Second World War (WWII) followed by an overview of the modifications made to it with the advent of what many refer to as ‘neoliberal global capitalism.’ These changes in the global political economy also led to the development of new theoretical perspectives that were better equipped than the traditional IR perspectives to analyse the unfolding reality, and key features of one of these new tools of analysis, the neo-Gramscian GPE perspective, are discussed in the next chapter.

Chapter 3 outlines the main features of the neo-Gramscian theoretical perspective as it was first developed in the 1980s by Robert Cox (1981, 1983) and subsequently modified by his colleague Timothy Sinclair (2016). Critically evaluating both the original analytical framework referred to as the ‘Method of Historical Structures’ (MHS) as well as its modification (*MHS Redux*) with respect to the need to apply ‘Anthropocene thinking’ in our work as academics, I propose a further modification to the MHS, which I call the *MHS Redux II*, that puts the Earth’s biosphere more prominently in the framework. The *MHS Redux II* contributes to the development of a GPE adequate to the academic challenges of the Anthropocene by providing a framework that facilitates analyses of the dynamic relationships between the biosphere (within which humans are embedded) and the social institutions constituting the global political economy. In Chapter 3 I also define some of the main neo-Gramscian and Gramscian concepts that I use throughout the rest of my analysis.

The *MHS Redux II* analytical framework is applied in Chapter 4 to critically analyse the causes and effects of the ecological, economic, social and political crises that the extension and intensification of global capitalism engenders by referring to relevant academic literature from many different discipline areas. My main objective in

drawing on this wide range of academic literature is to verify ecosocialist accounts that there are, indeed, crises in all these systems and that they are interconnected.

A key argument that ecosocialists make is that capitalism and its institutions are incapable of resolving the early 21st century's interrelated crises, and in Chapter 5 I critically interrogate this assumption by reviewing the history and circumstances under which the primary institutions established to address the causes of anthropogenic global warming, the IPCC and the UNFCCC, arose and developed. My research indicates that ecosocialist arguments are correct where these particular institutions are concerned: policymakers representing the United States in alliance with other state representatives have, for a variety of reasons discussed in detail in Chapter 5, influenced both the form and substance of these institutions. The institutional failures to address the urgent issue of anthropogenic global warming and the climate change, ocean acidification and other serious ecological problems it causes has led to the formation of a distinct social movement, the 'climate movement,' which is the topic of Chapter 6.

In Chapter 6 I trace the origins of the current climate movement partly to the environmental movement that developed in the advanced capitalist economies in the 1960s, but also to the global justice movement that became prominent with the 1999 'alter-globalization' movement protests in Seattle against international economic institutions such as the World Trade Organisation (WTO). In this chapter, I discuss the formation and evolution of the climate movement, focusing on the primary ideological division that developed within it in the light of the continuing failure of governments and formal institutions to address the climate crisis. As many analysts agree, by 2007 there were two distinct wings within the climate movement: the reform-oriented 'climate action' wing and the more radical 'climate justice' wing. These constitute two extreme positions within the climate movement, with actors adopting a range of positions in between, and I emphasise the importance of this with respect to the role of ecosocialists (who occupy a space within the radical climate justice wing of the movement). Given what is at stake as the climate crisis unfolds, I argue that ecosocialist interventions in discussions and debates within the climate movement are vital as ecosocialists are well equipped to support arguments

that, on the one hand, oppose what some actors in the climate movement refer to as ‘false solutions’ and, on the other hand, propose strategies and tactics that promote ‘real solutions’ that have the potential to be both effective and socially just.

Before discussing specific instances of ecosocialist understandings of progressive strategies and tactics in Chapter 8, an overview of ecosocialist theoretical debates is provided in Chapter 7. These debates take place both between theorists who identify as ecosocialist and between ecosocialists and other groups, such as the Breakthrough Institute’s proponents of ‘ecomoderism.’ Deploying John Bellamy Foster’s useful schema that distinguishes between ‘first-stage,’ ‘second-stage,’ and ‘third-stage’ ecosocialists, I provide an overview of some first-stage ecosocialist critiques of classical Marxism on the grounds of its allegedly ‘anti-ecological’ stances and second-stage ecosocialist arguments that these critiques are based on selective readings and misinterpretations of Marx and Engels’s original works (Stache 2016). Foster describes third-stage ecosocialists as those theorists who use the analytical tools of classical Marxism, including his ‘metabolic rift’ theory, to analyse current events. These analyses, in turn, inform the understanding of ecosocialist activists who work towards achieving climate justice with other actors in the climate movement. Ecosocialist activists are keenly aware of the importance of strategy and tactics, and the debates they have both among themselves and with others about these issues are discussed in some detail in Chapter 8.

Debates between ecosocialists on issues of strategy and tactics are reviewed in Chapter 8 with reference to three case studies that analyse ecosocialist positions on whether or not to support market mechanisms ostensibly promoted as ways of reducing GHG emissions, the role of the working class in struggles for climate justice, and appropriate strategies and tactics in relation to climate justice movement activism at official COP negotiations. These case studies illuminate some of the main issues that ecosocialists are concerned with and illustrate their sophisticated understanding of the dangers of *trasformismo* (a Gramscian concept whose meaning is discussed in Chapter 3).

In Chapter 9, I conclude with an evaluation of the strengths and potential challenges that ecosocialists face as well as with a discussion of the limitations of this research project, suggestions for further research, and a brief account of my own experiences while working on this research project. The personal account is intended to comment on not only the way in which ecosocialist discourses have influenced my own understanding but also on the broader challenges we face as we engage with the Anthropocene both in our personal lives and, very importantly, as academics who have the resources, privilege, and the time to engage with the issues that are emerging.

Chapter Two: The post-WWII global political economy and the Anthropocene

“It is of utmost importance to understand that the ‘Anthropocene’ is not a term coined to describe the continued spread of human impacts on the landscape or further modifications to ecosystems; it is instead a term describing a *rupture* in the functioning of the Earth System as a whole, so much so that the Earth has now entered a new geological epoch.”

(Hamilton 2017, pp. 9 – 10, emphasis in original)

This chapter provides an overview of the global political economy established after WWII and some of the ways in which it was modified in the 1970s. These modifications were significant enough to prompt the development of GPE as a distinct field of academic study within the discipline of IR.⁴ The single most significant effect of the post-WWII global political economy, however, was discovered in a field of study beyond the traditional scope of GPE studies, emerging from a new discipline area that developed in the sciences: Earth System science. My discussion in this chapter begins with a brief introduction to the concept of the ‘Anthropocene,’ which many Earth System scientists have nominated as the term for the new geological epoch that they argue replaces the Holocene (the formal designation of the geological epoch we live in).⁵

The concept of the Anthropocene is central to the investigations discussed in this research project for two reasons: firstly, because it is the single most significant outcome of the post-WWII global expansion of capitalism so that GPE studies ignoring it are incomplete; and secondly, because of its importance to ecosocialists. After a brief overview of the Anthropocene, I describe the key features of the

⁴ While the term ‘Global Political Economy’ (GPE) is used throughout this text, in the orthodox literature the academic discipline of GPE is often referred to as ‘International Political Economy’ (IPE) (Palan 2013). As is often the case with terminology, ideological differences inform the use of these labels, and it is the ‘unorthodox’ critical theorists who tend to refer to the discipline area as GPE: the term ‘global’ emphasises a more holistic approach that sees economic, political and social power as integrated and also acknowledges the agency of civil society actors such as social movements, while the term ‘international’ in the IPE label implicitly draws attention to individual nation states and large, formally-sanctioned international institutions as the most important key actors.

⁵ Refer to Angus (2016) for a comprehensive account of geological timespans and of the origins, developments and implications surrounding the concept of the Anthropocene.

current global political economy and some of the ways in which it was modified in the 1970s. The chapter ends with an overview of the ecological, economic, social and political instabilities and crises resulting from the nature and operations of the global political economy (which are discussed in detail in Chapter 4). These crises have led to the rise of social movement actors such as the global justice movement and the climate movement, which ecosocialists are allied with and whose role in these wider social movements are the focus of this research project.

As noted in Chapter 1, ecosocialists argue that current early 21st-century ecological, economic, and socio-political crises are all interrelated and can only be fully understood and effectively addressed when considered as part of a systemic crisis whose root cause is capitalism. It follows that an overview of the post-WWII development of the capitalist global political economy is of central importance for four reasons: firstly, it provides an account of key developments that informed the establishment of GPE (including the neo-Gramscian theoretical perspective deployed in this research project) as a distinct field of study; secondly, it informs ecosocialists' own theoretical analyses and understandings; thirdly, it informs this study of ecosocialism because it is within the context of current power relationships that ecosocialists act to achieve their aims; and finally, it is central to understanding the causes of the Anthropocene and exploring possible ways of dealing with living in this new geological epoch on a planet that some analysts describe as a 'different Earth.'

The Anthropocene: A new geological epoch

As ecosocialist Ian Angus explains, the study of the Earth as an integrated system originated in the 1980s when scientists realised that “nuclear weapons, ozone-destroying chemicals, and greenhouse gases could radically remake the world: human activity was causing not just change but *global change*, with potentially disastrous consequences” (Angus 2016, p. 30). By the year 2000, it was clear that the anthropogenic changes to the Earth system were so profound that atmospheric scientist Paul Crutzen introduced the term ‘Anthropocene’ to describe the new geological epoch we now live in (Angus 2016; Hamilton 2017). While the International Commission on Stratigraphy is yet to decide on whether or not to

formally acknowledge the Anthropocene as a new geological epoch, Angus (2016, p. 58) points out that even if it rejects the Anthropocene Working Group's recommendation to do so, this "will not make the Anthropocene go away."

The advent of the Anthropocene constitutes what Hamilton refers to as a "*rupture* in the functioning of the Earth System as a whole" (Hamilton 2017, p. 10, emphasis in original) or "a *phase shift* in the functioning of the Earth System as a whole" (Hamilton 2017, p. 25, emphasis added). Will Steffen, one of the 'standard-bearers' of the Anthropocene concept (Hamilton 2015, p. 103), describes the implications of this shift succinctly: "We are now living in a no-analogue world" (Steffen *et al.* 2015b, p. 94). In GPE terms, this means that the environmental impacts of the global expansion of the capitalist mode of production in the post-WWII years have been so great that they have *changed* the Earth system. Moreover, it means that these changes in the Earth system are, in turn, having effects that are unpredictable (since we now live in a 'no-analogue world') on the global political economy, and this is why, concurring with Hamilton (2017), I argue that GPE studies that neglect the onset of the Anthropocene are incomplete.

One of the debates geologists are now engaged in that has a direct impact on GPE studies involves determining when the Anthropocene started, with suggestions ranging from Neolithic times to the Industrial Revolution and beyond (Oldfield *et al.* 2014). Steffen *et al.* (2015) point out that human activities prior to the 1940s, while affecting local ecosystems, were neither extensive enough nor profound enough to have environmental effects on a planetary scale. It was only after the "phenomenal growth of the global socio-economic system" in the 1940s, a phenomenon that Earth System scientists refer to as the 'Great Acceleration,' that planetary-scale changes to natural systems become evident (Steffen *et al.* 2015b, pp. 93 – 94; see also Hamilton 2017, pp. 83 – 84 and pp. 134 - 135). Graphs of *socio-economic trends* such as population, real GDP, foreign direct investment, primary energy use, fertilizer consumption, transportation and international tourism, and graphs of *biospheric system trends* such as GHG concentrations, ocean acidification, surface warming and tropical forest loss over the period 1750 - 2010 show sharp increases in all these indicators after 1950 (refer to the graphs in Steffen *et al.* 2015b, pp. 86 – 87). On the

basis of this evidence, the preferred date Steffen and his co-authors suggest for marking the onset of the Anthropocene is, in fact, very precise:

On Monday 16 July 1945, about the time that the Great Acceleration began, the first atomic bomb was detonated in the New Mexico desert. Radioactive isotopes from this detonation were emitted to the atmosphere and spread worldwide entering the sedimentary record to provide a unique signal of the start of the Great Acceleration, a signal that is unequivocally attributable to human activities.

(Steffen *et al.* 2015, p. 93)

While several theorists in the late 1970s and early 1980s argued that existing theoretical perspectives in IR were inadequate analytical tools for understanding and explaining the post-WWII changes in the global political economy as traditionally defined in the Holocene, they were not aware of the Anthropocene, which Hamilton (2015) describes as requiring a revolutionary paradigm shift in the academy in *all discipline areas*, of the sort described by Thomas Kuhn (1970). As discussed in Chapter 3, I modify the neo-Gramscian GPE perspective before using it in my analysis in an attempt to accommodate this new understanding that because we no longer live in the Holocene, we need to develop an ability to think differently — in a holistic way that is appropriate for understanding and trying to address the interconnected challenges we have to face in the Anthropocene (Hamilton 2017).

The origins of GPE as a new field of academic study

Many academics (for example, Cohen 2007; Cox 1996b; Gill 1993; Gilpin 1987; Palan 2000) agree that new fields of study always arise within the context of developments within the ‘real world’, when existing intellectual tools are inadequate to the task of explaining events, their causes, and their implications.⁶ Cox (1996c, p. 176), for example, explains the rise of new fields of academic enquiry as follows:

How does a new field of academic enquiry come into existence? Not surely through some form of intellectual parthenogenesis whereby existing realms of academic enquiry subdivide and multiply on their own. The new field is born from the fertilization of *experienced reality* [emphasis added]. Something important is going

⁶ The validity of this argument is also, of course, demonstrated in my preceding discussion about the conditions leading to the emergence of Earth System science as a field of study.

on that the academy cannot explain to our satisfaction. Sensitivity to the real world is the primary ingredient...

Thus, GPE arose as a distinct field of academic study in the late 1970s and early 1980s because of changes in the nature and operation of the global political economy that were initiated in the period immediately after WWII but shifted in important ways in the 1970s. In the immediate aftermath of WWII, the victors (led by the primary victor, the United States) devised and implemented a variety of measures with the aim of restoring conditions conducive to capital accumulation. The resultant Bretton Woods system was, however, abandoned in the 1970s and phenomena such as the 'stagflation' evident since the 1960s provided a rationale for governments and policymakers of the advanced capitalist economies to begin implementing economic policies that came to be called 'neoliberal.'⁷ This rearrangement of national and global social relations of production and exchange over the past four decades has, crucially, included important shifts in the priorities and operations of nation-states at the domestic and global levels (Cox 1981, 1983), and these developments both intensify environmental degradation and have profound and destabilising effects on many people's everyday lives in all parts of the globe.⁸

In sum, it is widely agreed amongst scholars that the 1970s heralded the beginning of an increasingly unstable period in global history, and some theorists maintain that the traditional tools used within the discipline of IR - particularly the analytical tools provided by its orthodox theoretical perspectives, Realism and Liberalism - are inadequately equipped to either analyse and explain the social and political implications of current developments in the global political economy or to trace

⁷ 'Stagflation' describes the phenomenon of the simultaneous increases of inflation and unemployment (Beeson 2010).

⁸ The notion of 'social relations of production' is used in the Marxist sense which, as Del Weston (2014, pp. 5 – 6) observes, "is methodologically, theoretically and historically useful in answering the question: 'can the problem of global warming be solved within the globalised capitalism political economy framework?'" This question constitutes the central preoccupation of ecosocialists, and Weston's definition of 'social relations of production' is relevant: "...humans' impact on the environment is determined by a particular social structure of the society, the social relations amongst people and the material/social relations of people with the broad ecology."

possible future trajectories heralded by these changes (Cox 1981).⁹ This is because traditional IR perspectives had their origins in a very different context to the one prevalent today.

The origins of International Relations as an academic discipline area

O'Brien and Williams (2010) trace the origins of contemporary IR studies to the First World War, which prompted studies of the 'anarchical state system' as part of an effort to prevent future outbreaks of such large-scale conflicts. Subscribing to a more overtly 'political-economic' explanation than this orthodox account of the origin of IR, van der Pijl (2009, p. 12) describes IR studies as being "originally a doctrine of global governance on the principles of free trade and peace, with strong legal overtones" - in other words, van der Pijl argues that IR was conceived of as part of a wider political project that aimed to achieve economic objectives. The latter interpretation of IR as a political project is particularly evident when one subjects Realist and Liberal IR approaches to critical scrutiny.

Traditional IR studies can be categorised in terms of three broad perspectives: Realism/neo-Realism, Liberalism/neo-Liberalism and Structuralism (Palan 2000; Williams 1996). The Realist perspective, which emphasises the actions of states and analyses global politics in terms of zero-sum, relative gains between different state actors, has dominated IR studies within the academy (O'Brien & Williams 2010). Liberal (or pluralist) IR perspectives, which are also traditionally used in IR, similarly see states as key actors, but they also acknowledge the importance of market actors and private (primarily business) interest groups because of the perceived mutual benefits of trade and investment; this ontological preference leads them to analyse states' actions with the view that they are trying to achieve broadly-defined social goals. As Palan (2000) points out, however, the conclusions that IR Liberals and

⁹ While even theorists working within critical GPE perspectives such as the neo-Gramscian one failed to identify environmental degradation and climate change as issues worthy of special attention, the urgency of addressing these environmental issues has become more evident over the past two decades and scholars working within the critical tradition of Marxism have devoted much time and effort to address this shortcoming, as is discussed in more detail in Chapter 7.

Realists arrive at, generally couched in terms of an undefined broad 'national interest,' are often the same so that it is difficult to distinguish between the two perspectives (see also Williams 1996). The third major perspective in traditional IR studies, Structuralism (an example of which is Immanuel Wallerstein's 'World Systems Theory'), denies the centrality of states in the international system and adopts, instead, a Marxist-inspired framework of analysis that treats capitalism as a world-wide system, with states being but one of several actors (Palan 2000). Palan (2000, p. 2) argues that the major strands of GPE theory have developed beyond the traditional contending IR perspectives of "realism, liberalism and structuralism" and now "reflect broader issues and contemporary debates in political economy and the social sciences."

The contemporary issues and debates that Palan refers to are, as noted previously, an outcome of the widespread changes or, as some theorists who use a more nuanced approach (for example, Amoore *et al.* 1997; Brenner, Peck & Theodore 2010) argue, 'rearrangements' of the post-WWII global political economy. Broadly speaking, these rearrangements can be summarised as implementing policies and creating additional institutions that further the aims of the post-WWII project of increasing and deepening the global integration of capitalism, and the penetration of capitalist relations into more regions in the world as well as into more aspects of social, biological and political life.¹⁰ These processes of extending the global reach of capitalist social relations of production while simultaneously intensifying these relations where they already exist are frequently referred to in the academic literature, as well as in the work and statements of ecosocialists, as 'globalisation' or 'neoliberalism' — or, in some accounts, as 'neoliberal globalisation,' a combination of these two concepts. These terms are, however, 'essentially contested concepts' (a notion that is discussed in more detail later in this chapter), and their implications are hotly disputed in the literature. Gill (1993) points out that even the question of "what has really changed in the world order" (if anything) is open to debate, as

¹⁰ The terms 'capitalism' and 'capitalist economies' are used instead of 'advanced economies,' 'industrialised economies,' and 'Western states' as the former terms are the appropriate ones given the theoretical perspectives I adopt are Marxist and neo-Gramscian (for reasons discussed in more detail in Chapter 3).

answers to this question depend on one's ontological and epistemological assumptions.¹¹ Any discussion of what has changed in the current phase of capitalism (in other words, in the historical period that many refer to as being characterised by 'neoliberal globalisation') can only make sense in the context of comparing the ever-shifting status quo to what existed before the rearrangements commenced. This necessitates an overview of some of the most salient features of the origins of this current phase of capitalism: the global political economy established at the end of WWII.

Key features of the global political economy between 1945 and the mid-1970s

In orthodox IR accounts, the period immediately following WWII was characterised by the 'Cold War,' which began in 1945 and ended in the early 1990s with the 'collapse' of what was called the 'Eastern Bloc.' At the inter-state level, according to these accounts, this period was characterised by a rivalry between an alliance of the advanced capitalist, industrially developed 'Western democracies' led by the United States and its foremost ally, the United Kingdom, and the Eastern Bloc of 'communist' states led by the Union of Soviet Socialist Republics (USSR) or Soviet Union (Cox with Sinclair 1996, 2002; Donnelly 2013; Gilpin 1987, 2001). The Cold War had military, economic, political and ideological dimensions as those in power in the US- and Soviet-led blocs of nations attempted to spread and entrench their economic and political systems and, equally importantly, their ideologies throughout the globe (Cox with Sinclair 1996; Gill & Law 1988). Ideologies can be defined as "conscious constructions which give general orientations to understanding and action" (Cox 2002, p. 89). The entrenchment of an ideological perspective involves promoting ideas (such as the superiority of liberal democratic political systems and of a 'free market') in such a way that they, and associated institutions, "come to be seen as natural and legitimate, and that they become embedded in the frameworks

¹¹ *Ontology* is concerned with the nature of social reality, what "its key components and relationships are" and how these components and relationships change over time (Gill 1993, p. 9); *epistemology* refers to "what human beings can and cannot know about the social world" (Burchill & Linklater 2013, p. 6) and how we can investigate it. Ontological and epistemological views are interrelated and also influence choices of appropriate research methodologies.

of thought of the politically and economically significant parts of the population” (Gill & Law 1988, p. 78). According to traditional IR theorists, the two primary aims of the contending blocs of allies in the post-war period were to consolidate their power domestically and to extend it more widely throughout the international state system by attracting the governments of so-called ‘developing’ nation-states into their spheres of influence. Given the later disintegration of the Eastern Bloc alliance and the dismantling of the Soviet Union as a political entity, this chapter is mostly concerned with developments emanating from the US-led advanced capitalist economies, as these created the foundations of the prevailing global political economy and the challenges it presents to those civil society forces (the global justice movement – and primarily ecosocialists in the radical climate justice movement) that are the focus of this research project.¹²

The current global political economy was shaped by the establishment of a number of key international and supranational alliances and institutions by the victors of the WWII, under the leadership of the foremost victor, the United States (Higgott 2010). These institutions were established in 1944 and have since been (and continue to be) refined and supplemented with additional mechanisms for achieving specific economic and political purposes. As well as creating the intergovernmental military alliance, the North Atlantic Treaty Organisation (NATO), in 1949 under the direction of the United States — with the integration of West Germany in 1955 provoking the creation of the Soviet-led Warsaw Pact (Kaplan 1969; Wolfe 1966) — political leaders and other powerful actors of the US-led alliance of advanced capitalist states sought to reinforce and strengthen their position in the international state system by incorporating and integrating more states into capitalist market relations. The post-WWII period was thus characterised by the increasing integration of the advanced

¹² The specific forms of social, political and economic arrangements that emerged in the advanced capitalist ‘Western democracies’ were influenced by the existence of the alternative model of economic, social and political organisation presented by the USSR and the Eastern bloc; similarly, the structure of the global political economy that has been unfolding since the end of the Cold War era is also partially attributable to the end of the Eastern Bloc and the resulting apparent absence of an alternative, non-capitalist, model of social, political and economic organization. The new social movements have also been influenced by both the collapse of the Soviet Bloc as well as the failures of the specific forms of ‘actually existing socialism’ in the Eastern Bloc before its collapse, as discussed in more detail in Chapters 6, 7 and 8.

capitalist economies and other 'emerging economies' into a global economic system through a variety of international and supranational economic and political institutions (Cox 1987; Gill & Law 1988) whose role in managing global affairs has become increasingly important. With the stated purposes of promoting 'economic growth' through 'free trade,' and reducing protectionism and monetary crises, the institutions established in this post-war period continue to facilitate the penetration of capitalist relations of production into more regions of the global economy and also foster the deepening of regional and global integration of capitalist economies (Gill & Law 1993; Overbeek 2000; Spruyt 2000). While the International Monetary Fund (IMF) and the World Bank were the main economic institutions initially created to manage the global spread of capitalist relations, a number of other international institutions were also established under the auspices of the United Nations (UN).¹³

Post-WWII International Institutions: the United Nations

The UN has developed in complex ways since its establishment (Cox with Sinclair 1996; Frova 2015; Weiss 2015). O'Brien and Williams (2010) identify two of its 'elements' as being particularly significant: the United Nations Security Council, composed of five permanent members with veto power over decisions about war and peace as well as the power to authorise economic sanctions against states they want to 'punish' for perceived infractions, and a variety of specialised agencies.¹⁴ Examples of such specialised agencies are the World Health Organisation (WHO), the Food and Agricultural Organisation (FAO), the World Meteorological Organisation (WMO), and the International Labour Organization (ILO). Many of these specialised

¹³ An analysis of their real powers shows that many of these UN institutions were designed to perform the ideological role of legitimising the new global order rather than to facilitate any real 'power-sharing.' An illustrative example of the inequitable power built into UN institutions is the General Assembly, which gives all member state representatives the opportunity to vote on a restricted number of policy issues but is only authorised to make recommendations (rather than binding resolutions) on non-budgetary issues (United Nations Foundation 2012). In addition, the General Assembly is not authorised to make recommendations on any issues that are under consideration in the Security Council (UN n.d.).

¹⁴ The five permanent members of the UN Security Council are the US, the UK, the Russian Federation, France and China. The Security Council's power is evident in many different ways, including in its power to select the Secretary-General of the United Nations Secretariat, the administrative organ of the UN (Baumann 2016).

agencies were established to address specific issue areas or, as O'Brien and Williams (2010, p. 136) put it, "to cope with the casualties of the global political economy." Unlike the powerful economic Bretton Woods institutions, which were established to manage the development of the post-WWII global capitalist financial system, the specialised agencies have little power and influence within the larger structure of the global political economy (O'Brien & Williams 2010).¹⁵ In addition to specialised agencies, institutions such as the IPCC and regulatory frameworks such as the UNFCCC have also been established to address the most significant 'casualty' of global capitalism discussed in this dissertation: the Earth's biosphere. In addition to being much more powerful than the specialised agencies, the economic institutions and arrangements originating with the Bretton Woods institutions also take precedence over the IPCC and UNFCCC and present serious obstacles to taking action to mitigate global warming, as discussed in more detail in later chapters. An understanding of the origins and key features of the Bretton Woods institutions is therefore essential in my analysis.

Post-WWII Economic Institutions: The Bretton Woods System

O'Brien and Williams (2010) identify the two main components of the post-WWII Bretton Woods System as being a new international monetary system (IMS) and a new credit system. The IMS established rules for the exchange of national currencies while the credit system determined how credit would be created and distributed across borders. The US had emerged from WWII as economically and militarily dominant, which gave it the leverage to shape the post-war world order that would dictate the terms of economic relations amongst the Western capitalist states (Gilpin 1975). Given US dominance, one important outcome of the Bretton Woods conference was an IMS of fixed exchange rates based on the US dollar which was, until 1971, valued with respect to gold reserves (Higgott 2010; Ougaard 2016).

Acting as the world's primary reserve currency since the mid-1940s, the US dollar is the currency most used by central banks as a reserve asset as well as the currency

¹⁵ Perceptions of the relative efficacy of the different UN institutions are ideological issues on which IPE and GPE theorists adopt differing positions.

most used when purchasing commodities and in the provision of international loans (Lucarelli 2012). The central role that the US dollar plays in the global economy has enabled it to sell its government bonds to foreigners at relatively low interest rates and thereby fund large budget deficits relatively cheaply. Moreover, when the US government borrows money there is no risk of its debt increasing if the value of the US dollar falls, whereas the debt repayments of other countries that borrow money denominated in US dollars increase if their currency loses its value. The role of the US dollar as the world's primary reserve currency is thus clearly favourable to US government and business interests while it means that US economic policies can cause financial (and hence social) crises in other parts of the world.¹⁶ An IMS based on the US dollar was accompanied by the creation of two institutions charged with the task of overseeing the establishment and operation of a new international trade and credit system: the IMF and the World Bank (Gill & Law 1988). The establishment of these institutions in a way that favours US interests is also clearly evident: unlike in the UN General Assembly, where all member states have equal representation, voting in the World Bank and the IMF works on a complex quota system that gives the US vote much greater weight than that of other member states (IMF 2016a; World Bank 2016).¹⁷

According to the IMF (2016a), its primary tasks between 1944 and 1971 involved “overseeing the international monetary system to ensure exchange rate stability and encouraging members to eliminate exchange restrictions that hinder trade.” The purpose of the World Bank, through one of its branches, the International Bank for Reconstruction and Development (IBRD), was to provide credit to European states to

¹⁶ The 1980s ‘Third World’ debt crisis is a dramatic illustrative example of how US domestic US monetary policy can reverberate through the global economy. The 2007/8 Global Financial Crisis (GFC) is another example of how a ‘housing bubble’ originating in the US affects the global economy. Evidence from a variety of sources demonstrates that the fallout from the GFC is still ongoing almost a decade after it began (Buzan & Lawson 2014; IMF 2016b; Keaney 2014; UNCTAD 2016; World Bank Group 2016; WTO 2016b). These economic crises are discussed in more detail in Chapter 4.

¹⁷ In 2015, the quota of the US vote in the IMF and the World Bank was more than double that of Japan, the member state with the second highest voting quota in these institutions. An examination of the voting quotas listed on the relevant IMF and World Bank webpages demonstrates that ‘developing economy’ member states are given very little say in the decisions made in these organisations.

rebuild their economies after the destruction of WWII (Gill & Law 1988). Some of these arrangements proved to be temporary, as they were only partially successful in establishing a stable global financial system that suited the major capitalist states (primarily the United States). According to analysts, there were two inter-related problems with this system: the IBRD had insufficient funds, and the link between the US dollar and gold was unsustainable. As the IBRD did not have sufficient funds to provide the credit required for post-WWII reconstruction in Western Europe as well as for purchasing American goods in US dollars, the US facilitated international capital liquidity through military spending, foreign investment and the Marshall Plan (O'Brien & Williams 2010).¹⁸

The Marshall Plan is an illuminating example of the intricate relationship between politics and economics: it was a *political* event (the 'communist coup' in Czechoslovakia in 1948) that persuaded the US Congress to inject money into Europe for reconstruction via the Marshall Plan in order to pre-empt the spread of 'communist' influence in Europe (O'Brien & Williams 2010; see also Desai, Freeman & Kagarlitsky 2016).¹⁹ Moreover, the conditions attached to credit provided through the Marshall Plan prefigured the approach that would later be used extensively by the IMF's 'Structural Adjustment Programs' (SAPs), whereby its loans were conditional to agreements by recipient governments that they would implement policies aligned with liberal capitalist economic principles.²⁰ States granted funds through the Marshall Plan had to agree to 'liberalise' their economies and engage in 'freer trade' and were also required to agree on how the funds should be distributed (Cox 1987), thus providing mechanisms for their deeper integration into the

¹⁸ This transfer of capital from the United States to other parts of the world caused other problems as by 1960 there were more US dollars in circulation than reserves of US gold, leading to the US government breaking the link with gold in 1971 (O'Brien & Williams 2010). US rising debt as a result of the Vietnam War was another important factor in the decision to decouple the US dollar from gold (Gilpin 2001).

¹⁹ The appropriateness of the use of the term 'communist' to describe the politico-economic systems in existence in the Eastern bloc is contested; nevertheless, traditional IR accounts refer to that system as 'communist.'

²⁰ Liberal economic principles entail a commitment to free markets with minimal state regulation of the economy (at least insofar as the freedom of capital is concerned, although the regulation of labour is condoned), with the purported aims of achieving "maximum efficiency, economic growth, and individual welfare" (Gilpin 1987, p. 27).

international capitalist economic system.²¹ Institutions such as the Organisation of European Economic Co-operation, later incorporating states outside Europe and renamed the Organisation for Economic Co-operation and Development (OECD), were also established to facilitate the wider and deeper integration of the global capitalist system (Cox 1987). While the task of providing international capital liquidity was initially funded by public sources (primarily by the US government), increasing percentages of credit would be distributed by private sources as time passed, which eventually led to the rise of the Euro-currency markets (O'Brien & Williams 2010). Having taken steps to inject liquidity into the international capitalist system, the advanced capitalist countries also created a mechanism designed to facilitate shaping an international 'free trade' regime, the General Agreement on Tariffs and Trade (GATT).

Like the global capitalist financial system established after WWII, the trade regime established under the GATT (in effect between 1947 and 1994) clearly favoured the economic interests of key players in the advanced capitalist economies and discriminated against the interests of the 'developing' economies by retaining protectionism in those economic sectors that suit the advanced capitalist nations — that is, in sectors such as agriculture and the textile and clothing industries, where developing capitalist economies enjoy a 'comparative advantage' vis-à-vis advanced capitalist economies (McPhee 1992).²² A related development to this selective

²¹ The use of specific terminology such as 'liberalise' is not value-free: while the word 'liberalise' has positive connotations, an alternative word, 'deregulate,' is arguably less ideologically-informed as 'deregulation' can have either positive connotations (if one subscribes to *laissez-faire* liberal capitalism) or negative connotations (if one supports a more regulated form of capitalism, or adopts a critical position regarding capitalist relations of production).

²² David Ricardo's 'law of comparative advantage' is a cornerstone of liberal economic theory and holds that in their trade relations with other nations, "countries will tend to specialize in those commodities whose costs are comparatively lowest" (Gilpin 1987, p. 173). In the 1980s, the neoclassical reformulation of this theory maintained that "a nation's comparative advantage is determined by the relative abundance and most profitable combination of its several factors of production, such as capital, labor, resources, management, and technology" (Gilpin 1987, p. 175). Absent from these accounts is any notion of how asymmetrical power structures play any role in trade relations, or how this theory's underlying assumptions of the immobility of the most important factors of production (primarily capital, but also labour) are not valid in the current context of neoliberalising global capitalism so that practices justified on the

protectionism was the emergence of regionalism, whereby the governments of nation-states created regional 'trade blocs' or alliances based on capitalist market principles.

Established in 1957, analysts identify the European Economic Community (EEC) as the initiator of the first phase of regionalism (O'Brien & Williams 2010). The aim of regionalism in this phase was to create regional groupings of nation-states that would help stimulate industrialisation and the development of capitalist trade relations; this was done by diverting trade rather than dismantling barriers to stimulate trade.²³ Regionalism would later come to be seen as an obstacle to the further neoliberal globalisation of the capitalist world economy. Another obstacle to the establishment of a completely 'unregulated, free market' global economy was presented by the existence of the Eastern Bloc.²⁴ The Soviet central planning model for economic development and social policies that provided secure jobs, free health care, education, and housing could not be ignored in the ideological and political struggle against 'communism.'²⁵ Cold War considerations thus played an important role in shaping both the domestic policies of governments presiding over capitalist

basis of 'win-win' situations as a result of 'comparative advantage' become zero-sum games that favour the owners of capital, who enjoy an *absolute* advantage (Daly 1993).

²³ "Trade diversion refers to the process where low-cost suppliers from outside the union are replaced by high-cost suppliers within the regional grouping. Trade creation refers to the situation where, as a result of dismantling barriers within the region, trade is stimulated" (O'Brien & Williams 2010, p. 179).

²⁴ 'Free markets' are, paradoxically, always enforced by strict global trade rules backed up by sanctions for countries that do not comply. As mentioned previously, these rules also greatly favour the groups who have the power to develop and implement them.

²⁵ While this is seldom discussed in orthodox academic and mainstream literature, there is empirical evidence to justify claims of the superiority of the central planning model adopted by the Soviet Union in the post-war period. As Gill and Law (1988, p. 309) record, "growth rates for industrial production in [the] CMEA [Council for Mutual Economic Assistance]...consistently exceeded those for the EEC in the 1960s and 1970s (although these slowed considerably in the late 1970s and early 1980s)." There is little or no unemployment in centrally planned economies (Gill & Law 1988). In addition, relative to western 'free market' economies, the centrally planned economies were characterised by "considerably less waste (there was no planned obsolescence, mass advertising, and unsalable surplus production, except where goods are defective)." These data can be used to support ecosocialist arguments that it is possible to meet social needs while avoiding wasteful and unnecessary production and consumption, and to thereby avoid the worst impacts of the ecological disasters that are certain to generate widespread social disruption and misery in a 'business as usual' scenario of an the continued global expansion of capitalist relations of production.

economies and the US-led policy decisions regarding the form of the emerging post-WWII global political economy.

‘Cold War’ ideology and ‘embedded liberalism’

During the Cold War period (1945 – 1989), the ideological struggle to demonstrate the attractiveness of capitalism played a major role in the domestic political economies of the industrially advanced capitalist states, whose governments were forced to adopt welfare nationalist policies in order to alleviate the negative effects of private wealth accumulation and thus prevent social unrest and sympathy towards the opposing ideology of ‘communism’ (Desai-Freeman & Kagarlitsky 2016; Dunford 2000; Gill & Law 1988; Gilpin 1987, 2001). This phenomenon was encapsulated by the term ‘embedded liberalism,’ coined by John Ruggie in 1982. Embedded liberalism referred to the development of an international capital accumulation regime that achieved a compromise between the *laissez faire* ‘free market’ ideals of classical economics and the need to provide a stable domestic political climate that facilitated continued capital accumulation. Also important during this period in the major capitalist states was the need to present Western liberal (or ‘representative’) democratic systems as effective and superior mechanisms of government (vis-à-vis the competing Soviet model of state socialism) that were responsive to the needs and preferences of their populations.

Liberal democratic theory contends that citizens have the power to influence policies adopted by their governments by voting in political parties that represent their interests (which would include access to work that secures a living wage and having their basic needs met).²⁶ In the 1950s and 1960s, therefore, the social relations of production in the advanced capitalist economies were characterized by Fordism and Keynesianism, both being strategies designed to minimise unemployment rates,

²⁶ As Cox (1996d, p. 532) notes, in the classic meaning of liberal democracy there is a formal separation between the political sphere (where citizens have ‘equal rights’) and the economic sphere (where private property has rights and citizens do not). This distinction lost some coherence in the period under consideration here and “people used their political rights to limit and to channel the rights of property – to correct the inequities of the market” (Cox with Sinclair 1996, p. 532); however, big business continued to thrive.

bolster consumer spending power, and thus ensure social stability as well as provide governments with tools to smooth out the inevitable 'market failures' (Cox 1987; Gilpin 2001) that Marx, as well as Keynes and other economists, recognised as being endemic to capitalism. Despite the moderate success of this 'post-war social compromise' in creating "the conditions for the most successful phase of expansion in the history of capitalism" (Dunford 2000, p. 151), a number of structural changes in the global capitalist economic system were also occurring in the 1970s that heralded a shift away from these principles and a rearrangement of the global political economy.

As Cox (1987; 2002) points out, while the causes of the 1968-75 crisis in the 'world order' established after WWII are open to debate, many political theorists agree that developments leading to the world recession that began in 1974 prompted a significant rearrangement of the operations and management of the post-WWII global political economy (for example, refer to Gilpin 1975; Hall 2011; Jefferies 2015; Jones 1997; Keaney 2014; Latham 1997; Robinson 2007; Starosta 2010).²⁷ Although I present contending views of the causes of the post-war structural crisis in my discussion below, in Chapter 4 I conduct my own analysis of the effects of these developments using the critical GPE perspective because this theoretical perspective is, as I argue in Chapter 3, best equipped to account for the complexity of the interrelationships between different actors shaping social systems as well as (in modified form) the interrelationships between human social systems and the biosphere.

Structural crisis of the post-WWII world order in the mid-1970s

Analysts' attempts to explain the causes of the post-war structural crisis of global capitalism vary in many ways, including in the issues they choose to focus on. For example, some theorists emphasise the falling rate of profit in the US, including the limitations placed on productivity efficiencies and economic growth by the Fordist production model (Rupert 1997) and the relative increase in 'the wage share' of

²⁷ 'World order' is one of the key concepts in the neo-Gramscian perspective, and its meaning is discussed in Chapter 3.

income as a result of the power of trade unions. Representing the state-centric Realist IR perspective, Gilpin (1987) identifies the crisis in terms of the end of the era of American economic dominance in the global economy as a result of several factors, including 'excessive Keynesian policies'; the escalation of the Vietnam War in the 1960s and the resultant growing US budget deficit; the increasing economic competitiveness of Japan, West Germany and the newly industrialising countries (NICs); and 'the first oil shock' presented by the quadrupling of world energy prices with the formation of the Organisation of Petroleum Exporting Countries (OPEC) in 1973-1974. O'Brien and Williams (2010) argue that while the imports of cheap manufactured goods threatened some jobs in the advanced capitalist states, the benefits of access to cheap imported consumer goods and the creation of employment opportunities in new economic sectors led to the willing acquiescence of workers to the trade liberalization process that ensued as a result of this crisis. Cox (1987), however, argues that accounts emphasising worker complicity in the changes are incomplete because the restructuring of the global political economy also crucially involved governments adopting domestic policies that greatly weakened the ability of workers to mount effective resistance to these changes.²⁸ The role of the state in weakening domestic labour movements in the US, the UK and Australia during the 1980s has been extensively documented by many analysts, adding validity to Cox's critique.²⁹

Beyond the weakening of the labour movement, government leaders and policy-makers of this 'advance wave' of the neoliberalising capitalist project were important agents initiating and organising several other necessary policy changes to prepare the ground for its signature features: deregulation of capital and labour markets; deindustrialisation in the advanced capitalist economies; and the erosion of welfare state provisioning of basic needs and services through cutbacks where full

²⁸ This example illustrates the point I make in the final sentence of the previous section of this chapter: that the critical GPE perspective developed by Cox (1981, 1983) facilitates a more comprehensive approach to analysing and explaining the structural changes in the global political economy.

²⁹ For example, refer to Cahill (2014) for a discussion of the Australian case and to Cox (1987), Harvey (2005) and Klein (2007) for analyses of the US and British cases.

privatisation was not feasible.³⁰ These policy shifts were, however, facilitated by a number of other important developments, including the dissolution of the Soviet Union in 1991 and the extension of capitalism into the former 'communist' states. While the balance of individual factors driving and facilitating the changes to the global political economy are given different weight by different theorists, there is no doubt that technological developments, particularly in the information and communications technologies (ICT) sector, also played a central role in facilitating 'globalisation' and the further expansion of capitalism. However, many theorists (for example, Amoore *et al.* 1997 and Gills 1997) argue that it is both simplistic and misleading to identify ICT as the most important factor driving changes in the global political economy as some analysts do because the development and widespread adoption of ICT was itself supported and promoted by government policies and funding (Jones 1997) and, more importantly, because technological advances cannot explain the specific form that the current phase of globalisation has taken: *neoliberal* globalisation.

Technology itself is nothing more than a tool; it is people (in this case, people with economic and political power) who decide which technologies will be developed and promoted, and how they will be used. The ongoing and well-documented reticence of governments and policy-makers in the US, the UK and Australia to promote renewable energy technologies such as wind- and solar-powered energy systems (Ekins 2015; Grattan 2016; Hamilton 2014; McKie 2016; Steffen 2015), while simultaneously supporting fossil fuels with enormous subsidies (Coady *et al.* 2015; IEA 2015), is an important illustrative example of how decisions about technology are political decisions that reflect dominant power relations. Political contestations over practical issues such as which technologies to support are reflected in *discursive* political contestations over the meanings of key concepts. As with many other key concepts in the Social Sciences, different users assign different meanings to the terms 'globalisation' and 'neoliberalism' (Amoore *et al.* 1997; Bruff 2005; Douglas 1997; Hall 2011; Jones 1997; Kacowicz & Mitrani 2016; Yeates 2002), and this

³⁰ Many analysts identify the Thatcher government in the UK, the Reagan administration in the US, and the Hawke-Keating government in Australia as being among the first to begin implementing neoliberalisation policies such as these.

inconsistent application results in conceptual confusions that have both theoretical and practical implications. One way of avoiding the incoherence arising from conceptual confusions about the meanings of these terms is to be aware from the outset that 'globalisation' and 'neoliberalism' are examples of what Gallie (1956) refers to as 'essentially contested concepts,' with their very 'contestedness' having important practical and theoretical implications, as discussed in more detail below.

Essentially contested concepts and their ideological role

It is widely acknowledged that the meanings of key social science concepts such as 'democracy,' 'social justice,' and 'freedom' are 'essentially contested.' Because of their complexity and the multidimensional phenomena they refer to, and particularly because of the normative *values* they implicitly embody, the meanings of essentially contested concepts are ambiguous and 'persistently vague' so that "different persons or parties adhere to different views of the[ir] correct use" (Gallie 1956, p. 172). While the resulting intellectual confusion is sometimes accidental (arising either from commentators themselves using such concepts inconsistently or from an assumption that everyone else understands and agrees with their own definitions), at other times different understandings of the meanings of key concepts arise as a result of 'conceptual *contestation*' (Collier, Hidalgo & Maciuceanu 2006, p. 212; emphasis in original). Gallie (1956, p. 169) defines 'essentially contested concepts' as those concepts that "inevitably involve endless disputes about their proper uses on the part of their users" and proposes seven criteria whereby such concepts can be identified.

Essentially contested concepts are: 'appraisive' (evaluative, thereby implicitly embodying normative positions); internally complex (comprising of 'component parts or features' (Ruben 2010, p. 263) that can be differently ranked in order of importance); initially diversely describable (so that alternative explanations exist from the outset because of their internal complexity); 'open' (in the sense that their meaning can change if new situations develop); and recognised to have multiple interpretations that are used both aggressively and defensively. Another important feature of essentially contested concepts is that they allow for interpretive

contestations that enable their refinement through debate.³¹ While the concepts ‘globalisation’ and ‘neoliberalism’ (as well as many other key concepts relevant to this study) are, by Gallie’s criteria, clearly essentially contested, debates about the meaning of such key concepts are not only intellectually interesting but have important practical implications as they either explicitly or implicitly support the status quo or they present critical challenges to it.³² As discussed in more detail in Chapters 6 and 8, for example, different definitions of contested concepts such as ‘climate justice’ and ‘sustainability’ have very real implications for people, for the integrity of ecosystems, and for the fates of non-human life forms.

‘Neoliberal globalisation’: An essentially contested concept

In concrete terms, varying definitions of essentially contested concepts are distinguished by which of the multiple features of the concepts they choose to draw attention to and emphasise, and which of those features they choose to downplay or, in some cases, ignore altogether; these differences have important strategic implications, as Gills (1997) notes in his critique of ‘globalisation discourse’:

... among the ‘litany of sins’ of globalisation discourse that we most seek to expose and react to are: its economism; its economic reductionism; its technological determinism; its political cynicism, defeatism and immobilism; its de-socialisation of the subject and re-socialisation of risk; its teleological subtext of inexorable global ‘logic’ driven exclusively by capital accumulation and the market; and its ritual exclusion of factors, causes or goals other than capital accumulation and the market from the priority of values to be pursued by social action. In our view, the upshot of this type of globalisation is to bring about ‘the death of politics’, via ‘the death of our ideals’.... Globalisation discourse involves a serious political risk, i.e. the danger that the insidiously apolitical ‘logic of inevitabilism’ will prevail, and thus obscure the many political

³¹ One key underlying theoretical academic debate about ‘globalisation’ is, as McMichael (2000) suggests, the extent to which it is a conscious policy implementation (a ‘project’) as opposed to a ‘natural’ occurrence of the operations of a ‘free market’ (a ‘trend’). Cahill (2014) discusses the problematic and confusing definitions of ‘neoliberalism’ at length, contending that both proponents of neoliberalism (such as Friedrich Hayek and Milton Friedman) and many of its critics (reformists such as Joseph Stiglitz and even Marxists such as Eric Hobsbawm and David Harvey) begin from idealist positions that neoliberal policies are the products of neoliberal ideas and think tanks.

³² Another way of conceiving ‘essentially contested concepts’ is to think of them as ‘boundary concepts’ (de Lucia 2014) whose meaning is of vital importance because it informs possible actions that influence future trajectories (as is discussed in more detail in Chapters 6, 7 and 8).

alternatives to neoliberal globalisation that do actually exist and may yet be politically attainable. This logic of inevitabilism rests on deeply flawed arguments that mistake technological determinism for social explanation, and present recent politically and ideologically generated trends as deep inexorable structural changes.

(Gills 1997, pp. 12 – 13)

Also representative of the arguments made by many critical theorists (for example, Bieler & Morton 2003; Cahill 2014; Carroll & Jarvis 2015; Cox with Sinclair 1996), Douglas (1997, pp. 173 – 174) emphasises that it is only by critically interrogating the meaning of concepts such as ‘globalisation,’ and arguing for alternative meanings, that those concerned about their practical implications “...can guard against their exclusive inclusion into the political projects of social groups of whatever kind.” With respect to the ‘globalisation’ phenomenon, Douglas (1997, p. 174) points out that “by internalising the discourse of ‘the global’, and its associated myths, we all become ‘vectors’ ensuring the transmission of the new normalcy.” One way of avoiding the pitfall of becoming a ‘transmission vector’ confirming the inevitability of the status quo is to think of what is usually referred to as ‘neoliberal globalisation’ as being a *process*, a part of *an incomplete project* that manifests as a variety of regulatory experiments which are path-dependent and necessarily evolve “unevenly across places, territories and scales” (Brenner, Peck & Theodore 2010, p. 331; see also Peck 2013) and are therefore open to contestation. Brenner, Peck and Theodore (*ibid.*, p. 329) usefully describe the neoliberalisation *process* as

...one among several tendencies of regulatory change that have been unleashed across the global capitalist system since the 1970s: it prioritizes market-based, market-oriented, or market-disciplinary responses to regulatory problems; it strives to intensify commodification in all realms of social life; and it often mobilizes speculative financial instruments to open up new areas for capitalist profit-making.

Despite the difficulties of disentangling what has really changed from the ideologically-charged claims about what has changed in this current phase of capitalist expansion (Cahill 2014), it is necessary to briefly outline some of the most important empirically-observable changes (the ‘what’) relevant to the issues being analysed before discussing different views of both the origins of these changes (the ‘how’ and ‘why’) and their possible implications for both the theory and practice of

ecosocialist challenges to them. Even descriptive accounts are, however, biased: as noted previously, the selection of ‘facts’ to focus one’s attention on is itself a subjective exercise. Given that ecosocialists aim to address the ecological, economic and political crises within the context of a coherent, interlinked and *social justice framework*, the ‘facts’ of what has changed outlined below (and analysed in more detail in Chapter 4) are selected accordingly: I focus on those changes that transfer more power from people living and working in specific places (the ‘local’) to global elites comprising the transnational capitalist class (TCC) and its allies and institutions (the ‘national’ and the ‘global’).

Post-1970s changes in the global political economy and their significance

Extensive modifications in the functioning of the global capitalist political economy since the 1970s are interconnected and include a great increase in global trade facilitated by the restructuring of the international monetary and credit systems; the deregulation of the finance industry (constituting what some theorists refer to as the ‘financialisation’ of capitalism); the exponential increase of large transnational corporations (TNCs) that have reorganised how and where goods are produced and consumed; the entrenchment of neoliberal ideology among policy-makers at both the nation-state and international level as well as more widely amongst the working class; an increase in the number of, and connections between, powerful regional and international institutions, regimes and trade treaties that implement neoliberal economic policies; and finally (and relatedly), but most importantly, the rapidly unfolding changes in the Earth System as a result of the global spread and intensification of capitalist social relations of production, trade relations, and consumption patterns. As noted previously, these changes and their interrelationships are important to understand because they transfer more power to global elites and make it more difficult for people to protect their own local interests and the environment they live in at a time when it is more urgent than ever to avoid further environmental damage. International economic governance institutions and trade treaties play a central role in the organisation and policing of this global spread and intensification of capitalist social relations of production, and I begin my

overview of the neoliberalising processes of global capital with an overview of the evolution of the major international economic institutions since their establishment at Bretton Woods.

The expanding number and role of international economic governance institutions, regional groupings and trade treaties

The creation of the WTO in 1995 is significant in that its replacement of the GATT represents a further and deeper institutionalisation of liberal trade rules and also because it has a greater capacity to enforce compliance through a formal and legally binding dispute settlement mechanism (Higgott 2010).³³ Whereas the GATT's trade dispute mechanism had required unanimous consent before recommendations of the dispute panel could be adopted (a stipulation which meant its decisions could be blocked), the WTO's dispute settlement decisions can only be overturned if there is a negative consensus, that is, if all the members of the WTO's General Council agree to overturn the decision (WTO 2016a). O'Brien and Williams (2010, p. 168) identify three major ways in which the WTO has transformed the management of world trade: it set up conditions for the deep (as opposed to previously shallow) integration of trade liberalisation policies by shifting the focus from tariff concessions to "domestic policies, institutional practices and regulations"; it acts as a mechanism for expanding the multilateral trade agenda to include new issues such as trade in services, intellectual property rights and investment measures; and it has changed "the character of negotiations from a focus on bargaining over products to negotiations over policies that shape the conditions of competition." The overall effects of these changes include the transfer of power from local and national authorities to distant technocratic institutions that establish and enforce rules favouring capital while sidelining the ability of citizens to hold their governments accountable for the detrimental environmental, economic, and social effects of these policies.

Using both 'soft power' to influence behaviour and more overt, economic power to demand policy change, international institutions such as the WTO, the IMF, the

³³ All of the WTO's interlocking legal agreements, including the Dispute Settlement Understanding, must be accepted as a package by member states (WTO 2016a).

World Bank, and the OECD play a central role in promoting and enforcing the adoption of 'free market' measures such as economic deregulation, privatisation, and the implementation of austerity programs by governments who are required to balance their national budgets while simultaneously providing optimum conditions for the free flow of capital and trade (Keaney 2014). According to the 'Washington Consensus,' such policies are the best route to follow to facilitate 'economic growth' and development (Beeson 2010).³⁴ In addition to institutions such as the WTO, the IMF and the World Bank developing, promoting and implementing policies designed to extend and deepen the global integration of national capitalist economies, an increasing number of regional trade groupings and economic integration treaties have also been established over the years (a process that is ongoing as new groupings and treaties continue to be proposed and negotiated). Examples of such treaties and groupings include the North American Free Trade Agreement (NAFTA), the Common Market of the South (MERCOSUR), the European Union (EU), Asia-Pacific Economic Cooperation (APEC) and the Association of Southeast Asian Nations (ASEAN). These institutional arrangements and bilateral and multilateral trade agreements have led to both quantitative and qualitative changes in international trading patterns, as discussed in more detail below. The changes in trading patterns are significant not only because of the way in which they are used to transfer wealth from workers and other subordinate classes to the wealthy, but also because they are particularly harmful to the environment: increased competition between corporations encourages environmentally damaging production methods in low-wage countries with weak environmental standards and also leads to increased GHG emissions as component parts used in the cheapest-possible production of goods are transported vast distances using fossil fuel based transport systems, with the

³⁴ "Originally coined by the American economist John Williamson (1994), the 'Washington Consensus' referred to what Williamson called the 'common core of wisdom embraced by all serious economists'," including 'free trade' policies facilitated by privatization, fiscal discipline, tax reform, interest rate liberalization and liberalization of Foreign Direct Investment flows (Beeson 2010, p. 87). Given existing economic and power asymmetries, however, when considered at the interstate level free trade measures such as these benefit the stronger economic actors at the expense of national economies in both the Global South (states previously referred to as 'developing') and the Global North (states previously referred to as 'developed').

finished goods also being transported across great distances to be sold in distant locations.

The growth and changing nature of international trade

Not only has the volume of international trade grown more than fourfold between 1945 and 2007, clearly demonstrating the increasing interconnectedness of global capitalist economic activities (O'Brien & Williams 2010, p. 157), but the nature of that trade has also changed fundamentally. A breakdown of what is traded demonstrates the increasingly important role of the financial sector in the global economy, with the volume of foreign exchange trading (buying and selling of national currencies) increasing eightfold since 1986, and "the amount of investment capital seeking higher returns" increasing tenfold between 1980 and the mid-1990s (Gilpin 2001, p. 6). This growth in financial trade indicates that much international trade is now 'decoupled' from, or only indirectly linked to, the 'real economy' (the production of new goods) (Cox 2002), with important implications for the frequency and global scope of financial crises. Similarly, Gilpin (2001, p. 7) notes that "as many of these financial flows are short-term, highly volatile, and speculative, international finance has become the most unstable aspect of the global capitalist economy."³⁵ Key to many of the changes in the global economy and its inherent instability has been the creation of several new 'financial instruments' and 'financial products,' the development of which is facilitated by an IMS of floating exchange rates and the deregulation of the finance industry (Gilpin 2001) – key components of what Keaney (2014) refers to as a 'global neoliberal Social Structure of Accumulation (SSA)'.³⁶

³⁵ As the effects of global warming unfold, however, it is possible that these will replace the current dominant concern about financial stability.

³⁶ Keaney (2014, p. 45) defines Social Structures of Accumulation (SSAs) as "...the institutional ensembles that cohere in such a way as to facilitate a prolonged period of orderly, profitable capital accumulation." He proceeds to explain the origins of SSA theory as having "... first developed in response to questions surrounding the economic decline of the USA during the 1970s. A previously successful model of growth that had delivered measurable, significant gains for the US working class had stagnated. Profit rates had fallen continuously since the 1960s..." (Keaney 2014, p. 46).

Changes to the International Monetary System (IMS)

The IMF (2016) identifies the key event signalling the gradual dissolution of the Bretton Woods System (which it dates as occurring between 1968 and 1973) as the 1971 decoupling of the value of the US dollar from gold by US President Richard Nixon, which US policymakers saw as necessary because government debt exceeded gold reserves (Gilpin 1975; O'Brien & Williams 2010).³⁷ The effect of this decoupling was to shift the IMS from fixed to floating exchange rates. One implication of a global financial system based on floating exchange rates is that, in the context of a deregulated financial sector, it adds volatility to the global capitalist system by allowing financial traders to speculate in currency trades through the 'Euro-currency markets' by selling currencies they believe will decline in value and then buying them back when they are cheaper, thus making a profit (O'Brien & Williams 2010).³⁸ But the finance industry also expanded beyond currency trading in this period, a development that could not have occurred without the deregulation of finance and the creation of new financial instruments.

Deregulation of the finance sector and the creation of new financial instruments

While financial operators devised instruments such as Euro-currency markets to avoid regulation of their economic activities, governments themselves also adopted policies that dismantled existing financial regulatory systems in order to facilitate 'capital mobility' - the free movement of capital across national borders (Keaney 2014; Lucarelli 2012). The US government eliminated capital controls in 1974 and the UK in 1979, and further deregulation of the finance industry in the UK in 1986 dismantled regulations that prevented banks, stockbroking firms and insurance companies from competing in each other's industries (O'Brien & Williams 2010).

³⁷ O'Brien and Williams (2010) attribute the decision of US policymakers to decouple the dollar from gold to the refusal of the governments of some of the European states and Japan to revalue their currencies against the dollar, which enabled their industries to gain a competitive advantage over US industries.

³⁸ The so-called 'Euro-currency markets' are an important financial innovation dating back to the 1950s but gaining increasing importance in the 1980s; O'Brien and Williams (2010) point out that the term 'Euro-currency' is, however, misleading as the trading does not only involve European currencies but any currency other than that of the state in which the transaction is occurring.

These policies encouraged risky financial practices that led to a series of financial crises in the UK: the stock market crash in 1987 and the collapse of the housing market (which had been fuelled by an expansion in credit) and a recession in 1988 (O'Brien & Williams 2010). Despite the patently negative outcomes for the victims of such economic catastrophes, global financial deregulation accelerated in the 1990s (Keaney 2014), with an important example being the 1999 repeal of the US Glass-Steagall Act that had been enacted during the 1930s depression to reduce the financial risks associated with lending by separating investment and commercial banking (Lucarelli 2012). Advances in ICTs that facilitate near-instantaneous 24-hour global financial transactions have led to an increase in the frequency and intensity of global financial transactions, also adding to the volatility in the global economy arising from financial deregulation (Douglas 1997). Moreover, the deregulation of the financial sector encouraged the creation of complex new 'financial instruments' such as 'derivatives' (for example, 'futures' and 'options'), which were ostensibly designed to reduce financial risks for producers and investors arising from price and exchange rate fluctuations but which have increasingly been used by financial speculators to make money by betting on the value of commodities and currencies at some time in the future (Lucarelli 2012).³⁹

In general, the conditions under which complex new 'financial products' are traded overwhelmingly favour financial speculation: these 'products' can, for example, be

³⁹ "The term 'derivative' is used to refer to an array of financial instruments that are derived from more basic financial instruments. Carneiro *et al.* (2015, p. 644) demonstrate that even definitions of derivatives are 'essentially contested,' pointing out that the standard textbook definition of derivatives as "...financial contracts that establish future payments, whose value derives from an asset, financial instrument, or event occurrence" can be "...misleading as it suggests a causality that is not always true, *i.e.*, it proposes that the price formation of derivative contracts depends on prices in the spot market." The two most common forms of derivative are futures and options, which are derived or 'spun off' from stocks or bonds (O'Brien & Williams 2010, p. 230). Financial deregulation resulted in the creation of several additional, exotic derivatives, including the 'collateralized debt obligations' used by commercial banks to maintain nominally 'healthy' balance sheets that did not show the extent of their leverage after the repeal of the Glass-Steagall Act enabled them to extend their lending to unsecuritized mortgages. The deregulation of the finance sector also allowed investment banks to create 'credit default swaps,' which became instruments of financial speculation and created the conditions for the 'contagion' of the entire global economy in 2007/8 when the US housing bubble led to the imminent collapse of the US banking system (Helleiner & Pagliari 2009; Lucarelli 2012; White 2009).

bought 'on margin,' with buyers paying only a percentage of the purchase price as a down-payment (O'Brien & Williams, 2010). In addition, purchasers of commodity stocks and bonds can back out of the purchase if the price of the commodity goes down, losing only their fee, but they can buy the commodity if the price goes up and then sell it for a profit (O'Brien & Williams, 2010). Under conditions so favourable to finance capital, financial traders can make large profits without paying for the product they are purchasing when they buy it. The risk to the stability of the global financial system presented by these new financial instruments increased in the 1990s and in the early twenty-first century with the rise of new large financial players such as hedge funds, credit ratings agencies and institutional investors (Lucarelli 2012), and these agents played a large role in the 2007/8 GFC that lead to many people losing not only their homes but also their savings (as discussed in more detail in Chapter 4).

New financial players in the global political economy: Hedge funds, credit ratings agencies and institutional investors

Hedge funds are financial companies not subject to government regulations that buy and sell complex combinations of products over short and long time frames. Hedge funds have come to play an important role in financial crises because they buy 'short' with very little capital and are prone to making large losses of borrowed money if the future stock values they trade in do not fall (Helleiner & Pagliari 2009).⁴⁰ Credit ratings agencies such as Moody's, Standard & Poor's and Fitch also contribute to instability in the global financial system by providing information to investors about profit-making opportunities in different countries, thus exerting great influence over capital flows (Burchill & Linklater 2013; Helleiner & Pagliari

⁴⁰ "Buying 'short' positions involves borrowing a stock from its owner for a period of time. The stock is initially sold and then bought at a future date and returned to the owner. If the value of the stock falls during this period, the hedge fund makes money because it sold the stock when it was high and bought it back when it dropped in value. A 'short' position is taken when one believes the value of the asset (oil, currencies) will fall over time. The profit is usually invested in a long position or an asset whose value will increase over time" (O'Brien & Williams 2010, p. 232).

2009; White 2009).⁴¹ The negative outcomes of financial crises on ordinary people's lives that result from the actions of such financial institutions go well beyond their effects on the real economy (with increases in unemployment): since the 1990s, workers in the advanced capitalist economies have been forced by their governments to hand part of their wages over to pension funds, which are institutional investors (O'Brien & Williams 2010), with the result that ordinary working people are forced to bear the losses when stock market 'players' gamble with their savings. Processes locking workers into the unstable global financial system were also reinforced in the 1990s when governments scaled back on state pensions, forcing people to invest their money (usually in the stock market) in order to save for their retirement. Financial crises destroy the value of these inadvertent 'mom and pop' "stock market players'" savings and pensions as financial speculators who have nothing to lose gamble with their savings (Peck, Theodore & Brenner 2009). While these new features of the global financial system effectively lead to financial speculation and the increasing decoupling of much international trade from production, they also facilitate the expansion of the activities of the TNCs that manage a growing proportion of the global production of commodities so that these firms have become increasingly important players in the global political economy, with disastrous results for the environment and for workers in both the Global North (who lose their jobs) and the Global South (who are intensively exploited).

The role of transnational corporations in the global political economy

By the first decade of the 21st century TNCs "account[ed] for the majority of the global production structure and 50 per cent of world trade" (O'Brien & Williams 2010, p. 141).⁴² Their size and dominant position in the global economy give TNCs

⁴¹ White (2009, p. 396) maintains that "It is clear that the credit rating agencies were at the center of the subprime debacle" that led to the 2007 'housing bubble' and the 2007/8 GFC.

⁴² While many writers use the terms multinational corporations (MNCs), transnational corporations (TNCs) and global corporations interchangeably, O'Brien and Williams (2010, p. 188) suggest that the term TNC "more accurately reflects the fact that these firms are usually owned and controlled by the nationals of one country and enter into direct production activities abroad." Some writers, however, prefer the term 'global corporations' as it "reflects the impact of their activities" Most analysts agree that TNCs

great bargaining power in their dealings with the governments of particular states because of the economic and social implications of their investment decisions (UNCTAD 2016). While increasing competition resulting from innovations in production and ICT both facilitates and drives the global expansion of TNCs, the adoption of several policies by governments and inter-governmental bodies are also crucial factors in their growth (demonstrating that the 'free market' can only exist if it is actively created by people in positions of power). For example, governments' and national policymakers' actions leading to the deregulation of the global financial system facilitated the rapid expansion of foreign direct investment (FDI), and the creation of new financial instruments in the 1980s and 1990s made this capital more readily accessible by TNCs (O'Brien & Williams 2010).⁴³ Binding bilateral, multilateral and international trade agreements negotiated by policymakers on behalf of powerful financial actors such as TNCs also establish a wider context facilitating the global reach of such firms.

The governments of many developing countries facilitate the expansion of TNCs by instituting measures to attract foreign investment: for example, by establishing export processing zones with low labour and environmental standards and taxation laws attractive to capital (O'Brien & Williams 2010). This has resulted in the widespread practice of 'off-shoring,' with TNCs shifting their production activities away from the advanced capitalist states' territories (with the resultant deindustrialisation generating unemployment) to low-wage, low-tax territories that also offer the advantage of providing opportunities for the TNCs based there to more easily access new markets. Many TNCs have, moreover, changed the nature of their core activities, outsourcing manufacturing to global contractors while retaining control over research and development and marketing functions (Starosta 2010). In addition to the way in which such practices contribute to increased environmental

(or MNCs/global corporations) are defined as firms "with production facilities in two or more countries" (O'Brien & Williams 2010, p. 189).

⁴³ "Foreign direct investment refers to investment made outside the home country of the investing company in which control over the resources transferred remains with the investor. It consists of a package of assets and intermediate goods such as capital, technology, management skills, access to markets and entrepreneurship" (O'Brien & Williams 2010, p. 187).

degradation and GHG emissions, they have also ‘freed’ TNCs from the need to re-invest profits into production, a development that coincides with “changes in corporate governance that tie managerial decision-making more closely to shareholder interests at the expense of other stakeholders, arguably weakening the commitment of financial resources to longer investment horizons and biasing investment patterns towards sectors and activities that promise quick returns” (UNCTAD 2016, p. 140). In short, the ‘profit-investment nexus’ is weakening: while shareholder profits rise, these gains are not translated into productive investment and the creation of jobs (UNCTAD 2016).

While TNCs take advantage of these conditions to maximize their profits, they also use intra-firm trade as an important tool for cutting their costs (and thus increasing their profit margins even more).⁴⁴ Intra-firm trade benefits TNCs by providing them with a pricing tool that can be used to hide real profits and thereby minimize their taxation costs, a legal profit-maximising strategy known as ‘tax avoidance’ that is justified on the grounds that firms have a “fiduciary duty to maximise shareholder value” (UNCTAD 2016). TNCs are also able to profit from decreasing their tax bills by establishing their headquarters in ‘tax havens’ (Oxfam Australia 2016; UNCTAD 2016). While benefiting corporate Chief Executive Officers (CEOs) with higher salaries and shareholders with higher dividends, TNC tax-minimising and tax-avoidance tactics have serious social implications as the lost revenues adversely affects the ability of governments to fund social programmes (UNCTAD 2016). While the many environmental, economic, social and political crises generated by global economic neoliberalisation processes such as these are critically analysed in detail in Chapter 4, a brief summary of these crises is provided below.

Overview of the economic, social and political outcomes and implications of the expansion of global capitalism

Loss of tax revenue to fund social projects is only one of the socially harmful effects of global capital accumulation strategies such as tax avoidance and tax evasion. As discussed in detail in later chapters, the capital accumulation strategies referred to

⁴⁴ Intra-firm trade refers to the practices whereby, through various mechanisms, firms conduct their trade internally (within their own firm) rather than with other companies.

above generate several other ecological, economic, social and political crises, the most important of which is caused by the increase in GHG emissions that accompany the intensification and extension of global capitalism. Other problems that the global expansion of capitalist relations of production lead to in the advanced capitalist economies (often referred to as the 'Global North' in the literature) include rising unemployment and underemployment with the increasing casualisation of work; wage stagnation; rising inequality; diminishing access to essential services such as quality and affordable healthcare and education; and feelings of political powerlessness as governments and policymakers claim they are unable to take action to protect their citizens against the 'juggernauts' of large corporations, finance capital and the dictates of large international institutions and trade agreements (Cronin 2013; Harvey 2010; UNCTAD 2016). These capital accumulation strategies simultaneously generate many crises for populations living in the Global South (the so-called 'developing' world), including poverty and rising inequality (UNCTAD 2016); land-grabbing and the concomitant displacement of subsistence farmers and fisher-people from their means of reproduction (Fairhead, Leach, & Scoones 2012); the displacement of indigenous peoples from their lands, where they have subsisted sustainably and protected their environments for centuries (Dell'Angelo, D'Odorico, Rulli, & Marchand 2017); freshwater scarcity caused by climate change (UNEP 2015) and the extension of capitalist methods of food production (Ahlers 2010); and conflicts related to the strategic interests of the US and its allies (Burke-White 2014; Hudson 2016; Morton 2016). In addition, and more importantly for the purposes of this research project, these capital accumulation strategies also lead to a plethora of very serious global ecological problems.

Overview of the ecological implications of the expansion of global capitalism

The expansion of capitalism, and its drive for ever-increasing 'economic growth' that defines it as a system of exploitative social relations of production, comes at a great cost as environmentally damaging production and transportation methods contaminate more regions of the world and unsustainable consumption patterns are encouraged both in the Global North and in the 'developing' economies of the

Global South (Williams 1996). Scientists warn that the environmental consequences of these and other damaging practices risk making the planet uninhabitable as serious environmental degradation threatens the viability of major ecosystems and of the entire biosphere within which humans are embedded (Steffen *et al.* 2011).

Environmental destruction takes many forms, but scientists working in a variety of discipline areas agree that the most urgent current symptoms of the many interlinked environmental crises are the global warming, climate change and ocean acidification resulting from historical and ongoing anthropogenic GHG emissions.⁴⁵

As prominent climate activist Naomi Klein (2014, p. 18) observes:

...it is our great collective misfortune that the scientific community made its decisive diagnosis of the climate threat at the precise moment when ... elites were enjoying more unfettered political, cultural, and intellectual power than at any point since the 1920s.⁴⁶ Indeed, governments and scientists began talking seriously about radical cuts to greenhouse gas emissions in 1988 – the exact year that marked the dawning of what came to be called ‘globalization,’ with the signing of the agreement representing the world’s largest bilateral trade relationship between Canada and the United States, later to be expanded into the North American Free Trade Agreement (NAFTA) with the inclusion of Mexico.

In the context of the need to take decisive, immediate and effective action to maintain a habitable biosphere, the neoliberalising policies implemented over the past five decades that have resulted in the global expansion of capitalism present an additional challenge: they have been accompanied by equally important socio-cultural changes that destroy communities and social solidarity and promote individualism (Dunford 2000) and environmentally unsustainable consumerism.

The individualistic ideology that permeates western (and ‘westernised’) societies is particularly significant as it makes it more difficult for those arguing for change to organise the collective action needed to address the serious ecological, economic and socio-political crises accompanying the continuing implementation of the neoliberal globalisation project, as discussed in more detail in Chapters 4 and 6. The

⁴⁵ Because climate change is the main focus of ecosocialist theorising and activity, it is discussed in great detail in later chapters and is only briefly mentioned at this point.

⁴⁶ The immense increase of global elites’ economic power should be added to this list. [This footnote has been added by the author of this dissertation; it is not in the original quotation.]

neo-Gramscian theoretical perspective, developed by Robert Cox (1981, 1983, 1987) and then refined by Timothy Sinclair (2016) and modified in this dissertation to take the biosphere into account, provides a useful framework for evaluating both the material and the ideological constraints within which ecosocialists and the wider global justice movement actors are working to effect this change, as well as the opportunities the interlinked global crises (and particularly the global warming crisis) present for a deeply transformational change. The need for social science perspectives that can incorporate ecological struggles in this new age of the Anthropocene is discussed in more detail in Chapter 3, as are the key features of the neo-Gramscian and Marxist Gramscian perspectives used as analytical tools in this dissertation.

Chapter Three: Theoretical perspective: The Method of Historical Structures *Redux II*

“The social sciences taught in our universities – including those that ‘take the environment into account’ – must now be regarded as Holocene disciplines. The process of reinventing them – so that what is taught in arts faculties is true to what has emerged in science faculties – will be a sustained and arduous intellectual enterprise.”

(Hamilton 2017, p. 129).

Having outlined some of the characteristics and processes defining the global political economy in Chapter 2, in this chapter I explain why the neo-Gramscian theoretical perspective provides the most appropriate lens through which to analyse the interrelated ecological, economic, and socio-political crises generated by global capitalism as well as the role that ecosocialists, as actors in a wider social movement engaged in the issue of climate change, play in trying to address these crises. The neo-Gramscian analytical framework was originally developed by Robert Cox in the 1980s and then refined by Timothy Sinclair thirty-five years later. As I note in Chapter 2, I have introduced another modification to Sinclair’s adapted framework so that it can more readily meet the analytical challenges presented not only by this research project but also by the onset of the Anthropocene. Once the key features of the neo-Gramscian analytical framework and its modifications are described, I briefly discuss the meanings of Gramscian concepts that are deployed in later chapters to critically analyse the current balance of natural and social forces in the Anthropocene epoch’s global political economy, which is embedded in and dynamically related to the Biosphere in my modified analytical framework.⁴⁷ I begin the overview of the neo-Gramscian GPE perspective with a discussion of the relationship between theory and practice.

⁴⁷ Initially developed by Italian Marxist Antonio Gramsci, the meanings of these Gramscian terms are explained with reference to a variety of sources, including primary texts in the form of an English translation of Gramsci’s work itself (Forgacs 2000); Cox’s writings; the work of contemporary Gramscian scholars such as Adam Morton (2007), Peter Thomas (2013b) and Mark Rupert (2005); and theoretical interpretations of social movement activist-scholars such as William Carroll (2010).

The role of theory in informing practice

The role that theory plays in understanding and acting in the world relates to the issue of essentially contested concepts discussed in Chapter 2 and was also a crucial issue in the social science debates of the 1970s and 1980s that led to the development of GPE perspectives (Palan 2000). As many academics point out, while ‘facts’ are defined as information about the real world, theorists select *which* facts they consider significant enough to focus their analyses on, and their interpretations of the facts and of the interrelationships between those facts are informed by the theoretical perspectives they adopt (Burchill & Linklater 2013; Cox with Sinclair 1996; O’Brien & Williams 2010). Furthermore, no theory is value-free; as Robert Cox succinctly puts it, “Theory is always for someone and for some purpose” (Cox 1996b, p. 87).⁴⁸ Also important (and not always acknowledged) is the fact that all theories are historically grounded: theoretical perspectives develop within the context of a specific “social and political time and space” (Cox 1996b). Theories claiming to be objective and universal should therefore always be closely examined because such claims to neutrality and timelessness hide the existence of concealed ideological perspectives, whether or not the proponents of the ‘neutrality’ of these theories are aware of this (Cox 1996b, p. 87). There are many ways in which different theories can be classified, but a broad categorisation central to Cox’s work, which relates to the issue of the way in which all theory is “for someone and for some purpose,” is the distinction he makes between ‘problem-solving theory’ and ‘critical theory.’ A brief discussion of this broad categorisation will help to contextualise both my own decision to use a critical approach in this research project and the positions that ecosocialists and other actors within the climate movement and the global justice movement adopt vis-à-vis different possible approaches to addressing climate change and social injustice.

⁴⁸ Halliday (1994), cited in Burchill and Linklater (2013, p. 17), makes the observation that “... no human agent ... whether academic or not, can rest content with facts alone: all social activity involves moral questions, of right and wrong, and these can, by definition, not be decided by facts.”

Problem-solving theory and critical theory

In Cox's (1981) categorisation, while problem-solving theory focuses on solving specific problems, its underlying ideology is that it supports the status quo and aims to make the existing system work more smoothly rather than question it or fundamentally change it. Critical theory, on the other hand, questions the status quo: "it stands apart from the prevailing order of the world and asks how that order came about" (Cox 1996b, p. 88). Unlike problem-solving theory, which addresses discrete issues, "critical theory is directed to the social and political complex as a whole.... [and] leads toward the construction of a larger picture of the whole" even if it begins, like problem-solving theory, by analysing one of the components of the whole (Cox with Sinclair 1996, p. 89). Summarising the hidden ideology informing traditional problem-solving theory, Cox (1996b, pp. 89 – 90) states:

...the purpose served by problem-solving theory is conservative, since it aims to solve the problems arising in various parts of a complex whole in order to smooth the functioning of the whole. This aim rather belies the frequent claim of problem-solving theory to be value-free. It is methodologically value-free insofar as it treats the variables it considers as objects... but it is value-bound by virtue of the fact that it implicitly accepts the prevailing order as its own framework.

By questioning the status quo, critical perspectives do not claim to be ideologically value-free: they generally and consciously propose "normative choice[s] in favour of a social and political order different from the prevailing order", which leaves them open to the criticism of being 'utopian' (Cox 1996b, p. 90).⁴⁹ Cox argues that this utopianism is, however, limited in that critical theory "reject[s] improbable alternatives just as it rejects the permanency of the existing order" and can thus be used to "guide strategic action for bringing about an alternative order, whereas problem-solving theory is a guide to tactical actions which, intended or unintended, sustain the existing order" (Cox 1996b, p. 90).

⁴⁹ A normative position is one that specifies "how the world *should* work" and is often (and contentiously) contrasted to 'value-free,' "scientific descriptions of how the world *does* work" (Gilpin 1987, p. 26).

Cox's distinction between utopian and realistic possible alternatives is particularly salient when one considers the suitability of the neo-Gramscian GPE perspective for analysing and evaluating the role that ecosocialists play in the wider global justice movement in the context of the Anthropocene (which in itself demands holistic and dialectical analysis since a problem-solving approach is inadequate to the task of even understanding the Earth System, and even less to the task of addressing the challenges that an unstable and unpredictable Earth System present). As is demonstrated in some detail in Chapters 7 and 8, ecosocialist assessments of the status quo and of the prevailing balance of forces are realistic, sophisticated and sobering. In addition, it is argued that given the contradictions between the inflexibility of the laws of physics and the laws of capitalism (an economic system which depends on infinite growth and on exploiting both labour and nature for its very survival), the aims of ecosocialism are far from utopian in the sense that the solutions ecosocialists propose are unavoidable if we want to preserve the habitability of our planet. These understandings guide ecosocialist efforts to work with others in the wider climate and global justice movements, and their understanding of the urgency of the situation motivates them to persist in these efforts despite their knowledge of the monumental nature of the task ahead. The appropriateness of the neo-Gramscian GPE perspective for GPE practice in the Anthropocene, as well as for this particular research project, is evident in how this perspective facilitates not only a comprehensive incorporation of a variety of actors (such as states, institutions, socio-economic classes and social movements) but also in how it facilitates analyses of the dynamism inherent in social life as material conditions, existing institutions and ideational forces interact dialectically, thus exposing contradictions within the system and revealing possibilities for social change.

The Neo-Gramscian GPE Perspective: A Method of Historical Structures

The lasting legacy of Robert Cox's theoretical contributions in the field of critical GPE is celebrated in a special issue of the academic journal *Globalizations* (Volume 13, Number 5) published in 2016. It is in this issue that one of Cox's colleagues, Timothy

Sinclair, provides a concise summary and critique of, as well as a modification to, Cox's MHS.⁵⁰ Cox introduced the MHS in 1981 in a paper entitled *Social forces, states, and world orders: beyond international relations theory*, the first of two journal articles he wrote that many theorists recognise as having been ground-breaking in the field of critical GPE. Important achievements of Cox's MHS include the critiques of, and the alternatives it offers to, traditional IR ontological assumptions. These ontological assumptions are that it is possible to separate politics ('the state') from 'civil society' (the economy and other aspects of social life) and to treat a reified, ahistorical 'state' as the basic unit of analysis in the 'inter-state system' without recognising and accounting for the complexity of the real world (Sinclair 2016). Traditional IR theorists do not, for instance, consider the variety of actors and plurality of forms of state that exist, or the power relations, interrelationships and shifting dynamics between all these actors. Cox's critique is particularly pertinent to this research project, as neither the traditional IR perspectives nor the dominant IPE perspectives of neo-Realism and neo-Liberalism accommodate deep analyses of the role of the 'civil society' actors I focus on: the climate movement and, more specifically, its subset of radical climate justice movement actors that include ecosocialists.⁵¹

⁵⁰ Sinclair is also the author of the introduction to a collection of Robert Cox's writings published under the title *Approaches to World Order* in 1996.

⁵¹ Realist/neo-Realist IR and IPE analyses of global environmental politics, such as Paterson and Grubb's (1992), focus on states as the main actors in the field of climate politics. While some IPE theorists' work, such as the paper by Newell and Paterson (2010), acknowledges that some civil society actors within the climate movement contest emerging forms of 'climate capitalism', these actors play a marginal role and the overall argument of these authors acts as what Douglas (1997, p. 174) refers to as "... 'vectors' ensuring the transmission of the new normalcy." Adopting a largely liberal-institutionalist IPE perspective, Newell and Paterson (2010, p. 81) make a 'normative claim' calling for the transformation of capitalism into a 'climate capitalism' and downplay the possibilities of radical change opened by contestations against this project. These authors foreclose the possibility of anti-capitalist alternatives by arguing that "...it is clear that, like it or not, neo-liberal capitalism(s) will provide the context and historical moment in which action [to mitigate climate change] has to take place" and that "This implies engagement with prominent actors in neo-liberalism from business and finance, whose strategies need to be aligned with the goal of climate protection."

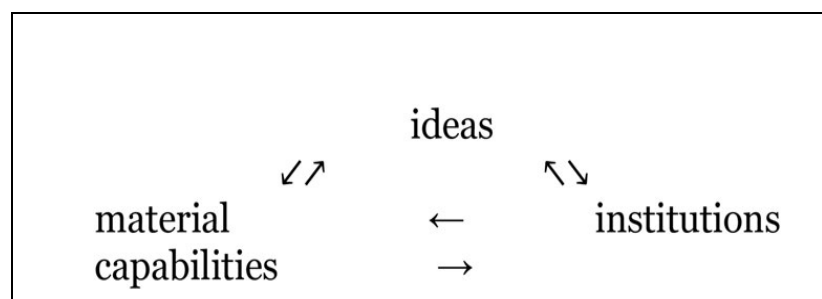
Sinclair's summary of the five main features of Cox's alternative and ground-breaking approach is worth quoting at length because of the brevity and clarity with which it outlines Cox's MHS:

First, action takes place within a 'framework for action' which limits and constitutes the world. Understanding this requires historical study. Second, theory is also shaped by this framework, in the sense that theorists must be aware of theory's historical character and the continual need for its adjustment as the world changes. Third, the 'framework for action' necessarily changes and the main task of critical theory is understanding this change. Fourth, the framework for action is an historical structure or combination that brings together thought, material conditions, and institutions. An historical structure does not determine action but 'constitutes the context' within which action takes place. Cox's structure can be read as a constraint but also more actively (but less clearly) as constituting action; so the historical structure does more than limit pre-given agents. Last, frameworks for action, or historical structures, should not be considered in terms of their need for equilibrium maintenance, but more dynamically, in terms of identifying the contradictions and conflicts within them which create the possibility for transformation of the framework for action.

Sinclair (2016, pp. 512 – 513)

Sinclair proceeds to describe the two 'elements' that make up the MHS, the first of which is the existing 'historical structure' that provides the backdrop to the terrain of social action. The components of historical structures are depicted graphically as a 'triangle' of what Cox refers to as 'Forces' and comprise 'material capabilities, ideas, and institutions,' as shown in Figure 1 below.

Figure 1: MHS Forces



Source: Sinclair (2016, p. 512)

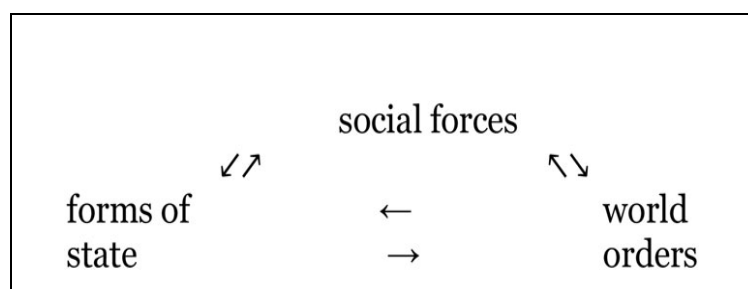
When using this framework of analysis, it is important to constantly keep in mind the implication of the arrows in Figure 1: material capabilities, institutions and ideas are

all interrelated and interact with, and influence, one another. It is also important to be constantly aware that there is no 'ideal' or eternal 'historical structure': all historical structures are both distinct and dynamic, and these features can only be revealed through empirical study. The dynamic features of historical structures also mean that history is never 'settled': historical structures contain contradictions that give rise to 'rival structures' (Sinclair 2016, pp. 512 – 513). Furthermore, in Cox's schema the contending forces within any given historical structure can be analysed by applying the balance of the forces evident at any point in time in the historical structure to the second element of the MHS, the three 'levels' or 'spheres of activity'.

The 'spheres of activity' are graphically depicted as another triangle, as shown in Figure 2 below, and comprise 'social forces,' 'forms of state,' and 'world orders.' Cox (1981, 1996b p. 100) defines the spheres of activity as fluid, and as emerging from the following processes:

(1) organization of production, more particularly with regard to the *social forces* engendered by the production process; (2) *forms of state* as derived from a study of state/society complexes; and (3) *world orders*, that is, the particular configurations of forces which successively define the problematic of war and peace for the ensemble of states.

Figure 2: MHS Spheres



Source: Sinclair (2016, p. 513)

Again, Cox (1981, 1996b pp. 100 - 101) emphasises the way in which the three levels at which social action occurs interact with and influence one another, as well as drawing attention to the significance of the arrows in Figure 2:

The three levels are interrelated. Changes in the organization of production generate new social forces which, in turn, bring about changes in the structure of states; and the generalization of changes in the structure of states alters the problematic of world order.... The relationship among the three levels is not... simply unilinear. Transnational social forces have influenced states.... Particular structures of world order exert influence over the forms which states take.... Forms of state also affect the development of social forces through the kinds of domination they exert...

What emerges is an analytical schema that seems more able to account for both the complexity and dynamic nature of the global political economy and to incorporate a much wider range of actors than traditional IR and dominant IPE perspectives provide tools for. While acknowledging the robustness of Cox's MHS as an analytical schema that is well equipped to deal with the dynamic complexities of the real world as well as the challenges that these complexities present to actors trying to create socially just alternative futures, Sinclair (2016) also addresses some critiques levelled against it and proposes modifications to address these critiques.⁵²

Sinclair's 'Method of Historical Structures Redux'

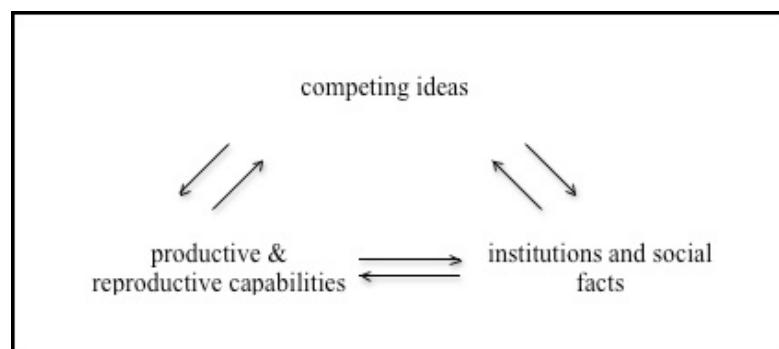
After summarising criticisms related to some sources of confusion regarding the application of the two 'triangles', ontological choices, and the role of agency in the original analytical framework developed by Cox, Sinclair suggests a few modifications that address these issues and are designed to strengthen the analytical potential of the MHS. The 'MHS Redux,' as Sinclair refers to the modified analytical framework, is graphically depicted as a triangle of 'Forces Redux' (Figure 3) and a diamond of 'Spheres Redux' (Figure 4), with the different shapes helping to eliminate one of the sources of confusion confronted by researchers who apply the methodology for

⁵² It is beyond the scope and purpose of this dissertation to discuss more substantial critiques of the MHS. For examples of such critiques and responses to them, refer to Cox with Schechter (2002), Farrands & Worth (2005), Germain & Kenny (1998), Morton (2007b), and Robinson (2005).

empirical research: having to make sense of how the two triangles relate to each other.

As shown in Figure 3, Sinclair makes two modifications to Cox's original schema of 'forces': he explicitly adds 'reproductive capabilities' to Cox's original 'productive capabilities' to address concerns about ontological choices that neglect gender and reproduction and he disaggregates Cox's 'ideas' into 'competing ideas' and 'social facts', amalgamating the latter with Cox's 'institutions.' Sinclair's (2016, pp. 514 - 515) rationale for the second modification is that "intersubjectivity, or social facts, do not sit well with class consciousness, and actually are more like institutions than ideas, given that Cox considers institutions more broadly than mere organizations.... In the new schema, ideas will only refer to consciously held ideas, not social facts." Sinclair's category of 'competing ideas' is designed to "highlight the focus on the conflict between different collectively held ideas" while the 'social facts' include those "norms and assumptions [that] structure our lives well away from the competition and controversy of competing ideas" (Sinclair 2016, pp. 516 - 517).

Figure 3: MHS Forces Redux

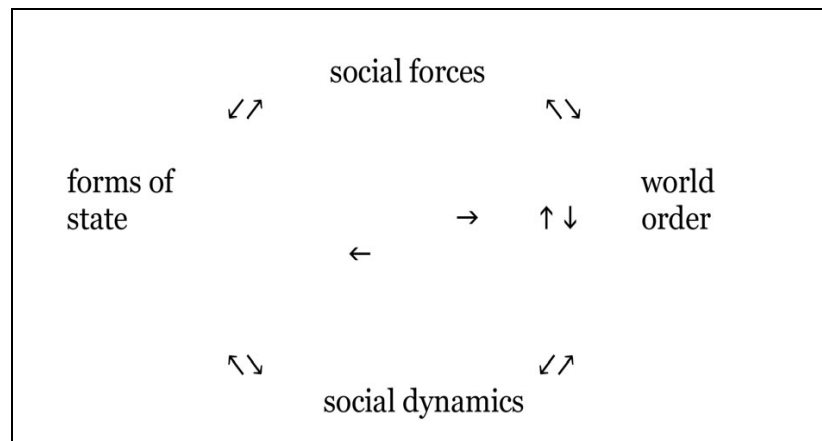


Source: Sinclair (2016, p. 517)

Sinclair's modification of Cox's second triangle of 'spheres' (Figure 4) is more extreme, transforming Cox's triangular shape into a diamond by adding a fourth sphere called 'social dynamics' to complement Cox's 'narrow understanding' of 'social forces' as those forces "engendered by the production process" (Cox with Sinclair 1996, p. 100). 'Social dynamics' are designed to encapsulate "...the vast range of human conflict and cooperation not reducible to production. Struggles by

social movements about things such as human rights and the biosphere are manifestly consequential and need to be recognised as such” (Sinclair 2016, p. 515).

Figure 4: MHS Spheres Redux



Source: Sinclair (2016, p. 517)

Having modified Cox’s original framework, Sinclair (2016, p. 518) clarifies how the two schemas ‘fit together’ and can be used by researchers analysing aspects of social reality: “The first, the forces, is the static or synchronic understanding of how things fit together (e.g. Thatcherism) while the spheres of Figure 4 allow for understanding of the broader context and incorporates [sic] potential contradictions between elements (e.g. Thatcherism vs. Soviet Communism, for example).” In my own research, a more relevant example is how the neoliberalising forces dominating the current historical structure generate contradictions that manifest as the organic crisis of global capitalism (discussed in more detail in Chapter 4) and provoke opposition in various quarters, including from the ‘alter-globalization’ global justice movement that gained prominence with the 1999 mass demonstrations in Seattle against the WTO and other economic institutions actively promoting the neoliberal agenda.

But the ecological crises inherent in the normal operations of capitalism that neoliberalising globalisation processes greatly exacerbate are just as important as the economic, political and social crises leading to the counter-hegemonic ideas and activities of the global justice movement, and while Sinclair’s modified analytical

schema clarifies much and facilitates the more ready application of the neo-Gramscian perspective when analysing the current historical structure and its framework for action, it continues to ‘collapse’ the environment and ecological issues within other categories. This is a serious shortcoming of the *MHS Redux* at a time when human impacts on the Earth System are so extensive that, as discussed in Chapter 2, geologists are considering the formal declaration of a new geological epoch, the Anthropocene, to succeed the Holocene that began about 11 700 years ago and has provided a stable biosphere amenable to building human civilizations (Crutzen 2002; Williams & Crutzen 2013). At this historical conjuncture, when an overwhelming consensus of scientists working in a variety of natural science discipline areas warn that the ongoing deterioration of the Earth’s life-support system as a result of human activity threatens the basis on which all life depends (Steffen *et al.* 2011), the biosphere can no longer be taken for granted or considered only tangentially, and should be given special consideration and emphasis (Hamilton 2017). My own additional modification to Sinclair’s *MHS Redux* attempts to put the Anthropocene more overtly and prominently into the neo-Gramscian analytical schema by explicitly referencing the Biosphere.⁵³

A critical analysis and modification of Sinclair’s *MHS Redux*: Emphasising the all-encompassing context of the Biosphere

When Robert Cox first published the description of the MHS analytical framework in 1981, ‘nature’ was treated as an aspect of the category ‘material capabilities,’ which he defines as follows:

Material capabilities are productive and destructive potentials. In their dynamic form these exist as technological and organizational

⁵³ Having considered ‘Earth System’ instead of ‘Biosphere’ as the ‘umbrella’ label for ‘material capabilities,’ I rejected this idea as Earth System scientists and authors such as Clive Hamilton point out that humans and their socio-economic systems are now not only part of the Earth System but major forces that have changed what would have been its normal trajectory. In that sense, it is the *MHS* in its entirety that should be enclosed within a larger box, the ‘Earth System,’ now. It is not clear how this would have served as an analytical tool, however, so I decided to refer to ‘Biosphere’ and to trial the use of this category in my analysis. In this research, I therefore understand the Earth System as comprising of two key components: the biosphere, and humans operating within social systems (which are, however, embedded in the biosphere and dependent on it for their existence).

capabilities, and in their accumulated forms as natural resources which technology can transform, stocks of equipment (for example, industries and armaments), and the wealth which can command these.

(Cox 1996b, p. 98)

Cox's framework was developed before US scientist James Hansen's 1988 congressional testimony on global warming and the subsequent increasing public awareness of the severity of its effects. Since then, however, not only has public awareness of global warming, climate change and environmental degradation increased, but much more scientific research has focused on the Earth as a dynamic complex system which is at risk of crossing physical 'tipping points' that can propel it into a new and unpredictable state (Biermann *et al.* 2012; Hansen *et al.* 2013; Steffen *et al.* 2011; Steffen *et al.* 2015) as a result of the spread and intensification of capitalist relations of production.

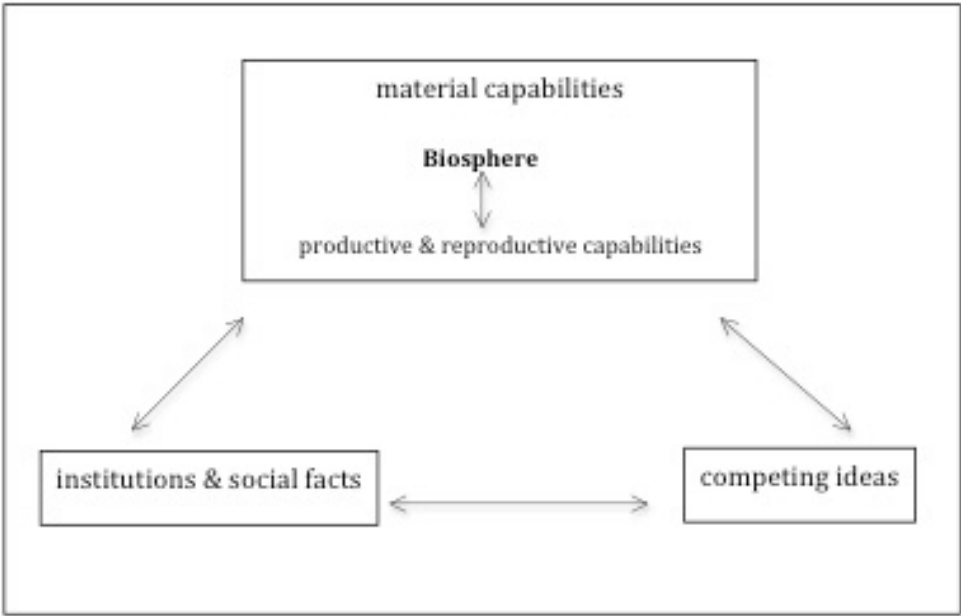
These developments strongly suggest that 'nature' can no longer be treated as a static force or as an accumulation of natural resources. In later publications, Cox *does* emphasise the urgency of the threats to the biosphere, arguing that it is only through pressure exerted from within civil society that the changes necessary to protect its integrity can be initiated (for example, refer to Cox 2002). Sinclair's argument for deciding not to make a separate category for 'the environment' is similar to Cox's observation that the changes required to protect the environment will necessarily emanate from social struggles: "while we are material beings as well as social ones, the struggle over how to address the environment is part of the social dynamic, and how we resolve it will not be reducible to material necessity alone" (Sinclair 2016, p. 515). Given the evident inability of capital to solve the problem of the degrading of the biosphere, which Marxists and ecosocialists argue results from a fundamental contradiction inherent in the capitalist mode of production (as discussed in later chapters), Cox and Sinclair are correct to argue that the issue of whether or not the planet remains habitable will be resolved through civil society action (or what Sinclair refers to as 'social dynamics'). However, as Earth System scientists emphasise, the biosphere is a material physical system in its own right: it reacts to physical inputs and also determines the physical limits underlying living organisms' productive and reproductive 'material capabilities.' While ecological

economists such as Herman Daly and Joshua Farley (2004) recognised this fact and incorporated their understanding of environmental limits and ‘the laws of thermodynamics’ in their economic models decades ago, standard IR and IPE analyses of environmental politics fail to take such natural limits into account (Williams 1996). Williams (*ibid.*, pp. 55-56) argues that “contemporary analyses of the political economy of global environmental change can be challenged on two broad grounds”: firstly, their positivist epistemology (which Williams points out that the neo-Gramscian perspective successfully challenges) and, secondly, their failure “to incorporate the ecological perspective on political economy, a perspective which starts from the assumption that economics and the environment are inseparable.” My modification of the *MHS Redux* aims to apply these crucial insights from ecological economics and thereby to address Williams’s (*ibid.*, p. 56) advice that “...IPE should explore the prevailing assumptions concerning the relationship between humans and the natural world. This critical task will not be accomplished if ecological economics remains invisible in IPE.” My modification of the *MHS Redux* schema is thus designed to emphasise the way in which social systems are embedded within the biosphere and, ultimately, rely on it continuing to support life for their existence.

One idea about how to fit the environment into the *MHS Redux* schema more overtly is to add it to Sinclair’s already-expanded category of ‘productive and reproductive capabilities,’ while a second idea is to enclose ‘productive and reproductive capabilities’ within an ‘umbrella’ category, ‘Biosphere.’ As we are increasingly beginning to understand, the latter is a more realistic depiction of the world we live in as the state of the biosphere determines the conditions under which both productive and reproductive activities occur, and scientists warn that its health could deteriorate to the extent that it no longer supports either production or reproduction of many species (including humans). To emphasise the centrality of the biosphere in this analysis, I make a further modification to Sinclair’s ‘Forces Redux’ (Figure 3), as shown in Figure 5 (‘Forces Redux Version II’). The placement of ‘Material Capabilities: Biosphere’ at the top of the triangle is intended to draw

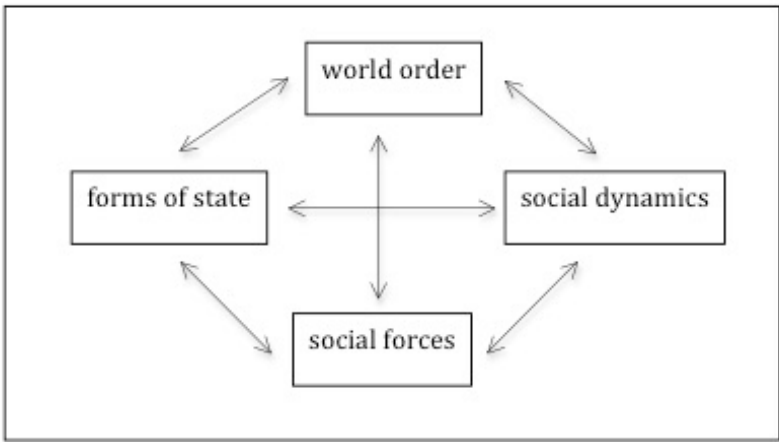
additional attention to the exceptional importance of the Biosphere as an analytical category.

Figure 5: MHS Forces Redux Version II



In Figure 6 (see below), I make a very minor modification to Sinclair’s ‘Spheres Redux’ by changing the format of the arrows in Figure 4 to depict more clearly that ‘social forces’ and ‘social dynamics’ influence each other, as do ‘forms of state’ and ‘world order.’

Figure 6: MHS Spheres Redux Version II



The approach adopted when analysing the role of the ecosocialist social movement in the current historical structure's framework for action involves applying the *forces* represented in Figure 5 to the *spheres* and levels of action shown in Figure 6.⁵⁴ This is done with reference to a number of analytical concepts initially developed by Italian Marxist Antonio Gramsci, some of which are highlighted by Robert Cox in his second ground-breaking paper, *Gramsci, hegemony, and international relations: an essay in method* (Cox 1983), and whose meanings are examined in more detail by Gramscian experts such as Peter Thomas (2009, 2013a, 2013b) and Adam Morton (2007).⁵⁵

As Peter Thomas's and Adam Morton's extremely detailed scholarly work focusing on deep textual analyses of Gramsci's writings demonstrate, the meanings of the concepts outlined below and used in this study are both complex and contested. Given the already extensive scope and purpose of this research project, however, the approach adopted in the use of selected Gramscian concepts, while drawing on the expertise of Gramscian scholars within the limitations imposed by time constraints, is similar to Cox's, who wrote: "This essay sets forth my understanding of what Gramsci meant by hegemony and these related concepts, and suggests how I think they may be adapted, retaining his essential meaning, to the understanding of problems of world order. It does not purport to be a critical study of Gramsci's political theory, but merely a derivation from it of some [useful] ideas..." (Cox 1996c, p. 124). The key analytical Gramscian concepts that are relevant to my study are *hegemony; forms of state; integral state; historic blocs; world order; organic crises;*

⁵⁴ It is interesting to consider the ways in which a changing biosphere might affect not only the material conditions of reproduction and production (and hence institutions, social facts, and competing ideas), but also the forms of state and world orders that are possible.

⁵⁵ I emphasise Gramsci's Marxism because this is the reading of Gramsci that is relevant to my analysis. As Thomas (2013a, p. 28) points out, "...it has often been claimed that Gramsci was fundamentally a theorist of the cultural superstructures, one who was not only a strong critic of economic determinism but perhaps even ignorant of economic theory. Sometimes, it has even been asserted that Gramsci's concept of hegemony represents the beginning of a 'post-Marxism', which logically should reject the Marxist critique of political economy and its emphasis upon class. Such readings, however, neglect the totality of the *Prison Notebooks*, which contain extensive notes dedicated to discussions of Marx's *Capital* and economic history. They also neglect the context of Gramsci's political activism, which remained fundamentally directed against what he repeatedly characterized as the 'dictatorship' of the bourgeoisie, including and especially in its fascist variant."

counter-hegemony; war of position and war of manoeuvre; passive revolution and trasformismo; organic intellectuals; subaltern social groups; the modern Prince; 'common sense' and 'good sense'; and the 'ethico-political sphere' of struggle. These concepts are used within the context of a historical materialist analysis that is dialectical and aims to understand the nature of the global political economy as it unfolds through the actions of various groupings at a variety of levels (local, national, global) and, importantly, within the overall context of the biosphere's material responses to these actions, while also taking into account how the material manifestations of biophysical degradation generate new social forces.

Van der Pijl (2009, p. 198) provides a concise explanation of the meaning of historical materialism as the premise that "people create their own world out of nature, but the different forms of society that result, then constitute a *second nature* further shaping their thoughts and actions." The historical materialist method of analysis begins with what Marx called "...the *imagined concrete*' (the world at first sight) to ever-more abstract determinations (which the thinker actively constructs from his/her own contradictory experience.... [and] from the abstract determinations, the route is retraced back to more complex constellations, but now 'enriched' by understanding [that constitutes].... the *thought-concrete*, the view of the totality as it is at that moment..." (Van der Pijl 2009, pp. 222 - 223). Dialectical analysis seeks to understand historical developments by identifying conflicting, mutually opposite instances (or contradictions) within the social formation being studied, and how these contradictions play out to create new social formations. For Marx, these contradictions reside "in the tensions between humanity as a part of nature and as a historical force; between the ruling classes and ideas, and those arising from other sources in society; in the various aspects of exploitation (of nature, in social relations) and domination" (Van der Pijl 2009, p. 204). In addition to deploying the Gramscian analytical concepts whose meanings are briefly outlined below, I use historical materialism as the general approach informing my analysis of ecosocialist contributions to the unfolding crises engendered by the expansion and intensification of global capitalism.

Gramscian analytical concepts

Hegemony is a key concept in traditional realist and liberal IR theories and in Gramsci's work and neo-Gramscian GPE analyses, but IR and GPE theorists define the concept in very different ways. While IR and problem-solving IPE theorists generally refer to 'strong' states as being hegemonic in the 'inter-state system' because their superior military or economic material power allows them to impose policies that suit their own interests on other states, critical GPE theorists such as Cox follow Gramsci's usage in emphasising 'the consensual aspect' of hegemonic power (Cox 1996c, p. 127). In the neo-Gramscian GPE literature, 'hegemony' refers to a form of class rule based on consent (Cox 1981, 1983) that is "backed up only in the last instance by the coercive apparatus of the state" (Overbeek 2000, p. 172).⁵⁶ The consent derives from the way in which, in specific capitalist societies, there have been historical periods when the ruling class truly represented the 'general interest' of leading subordinate classes or, in Gramscian terms, *subaltern* groups and classes, by making important concessions that gave the subordinate groups a stake in the status quo, and also from the way in which the ruling class is able to exert its influence over prevalent ideologies and ideas of morality through its control over "the myriad of institutions and relationships in civil society" (Overbeek 2000, p. 173).⁵⁷

Gramsci's notion of the *integral state* or the *extended state* encapsulates this dynamic between the formal apparatus of the state ('politics') and institutions such as schools, religious organisations, and the mass media within 'civil society.' The intellectual work of the ruling class' *organic intellectuals*, whose function it is to develop and sustain "the mental images, technologies, and organizations which bind

⁵⁶ Refer to Thomas (2013a) for a more comprehensive explanation of Gramsci's concept of 'hegemony,' which evolved in the context of his development of other key concepts such as 'passive revolution' and the 'modern Prince.'

⁵⁷ Thomas (2013a, p. 32) points out that the concept 'subaltern social groups' constitutes a 'novel addition to Marxist class analysis' and "...is not limited to the classes exploited in the capitalist labour process, but includes all social groups oppressed and consigned to the 'margins' of history. Green's (2011) reading of Gramsci's work also leads him to conclude that "Ultimately, for Gramsci, subalternity is not merely limited to class relations; subalternity is constituted through exclusion, domination, and marginality in their various forms..." (Green 2011, p. 388).

together the members of a class and of an historic bloc into a common identity,” is crucial in this respect (Cox 1996a, p. 132) as it helps to construct and maintain the hegemony of *historic blocs*. At the national level, historic blocs are created when a fundamental social class succeeds in integrating “a variety of different class interests and forms of identity within a ‘national-popular’ alliance” (Morton 2007a, p. 97). The extent to which hegemony exists, and what form it takes, is one important factor shaping the particular form of a state (with examples of different forms of state being ‘liberal-democratic welfare states,’ ‘neoliberal competition states,’ and dictatorships). Gramsci notes that *international* hegemony also constitutes “a form of class rule based on consent more than on coercion, and on accommodation of subordinate interests rather than on their repression” (Overbeek 2000, p. 174). Neo-Gramscian GPE perspectives see hegemony in the global system as a form of class rule that integrates social, economic and political structures (Overbeek 2000, p. 176). As Cox (1983, p. 171) argues: “The hegemonic concept of world order is founded not only upon the regulation of inter-state conflict, but also upon a globally-conceived civil society, i.e., in a mode of production of global extent which brings about links among social classes of the countries encompassed by it.”⁵⁸ The hegemony of historic blocs is, however, vulnerable and must be continually constructed, maintained and defended “in the face of constant resistance and pressures” which present opportunities for the formation of *counter-hegemonic movements* that have the potential to challenge the hegemony of the ruling class (Morton 2007a, p. 97). As Gill (1993, p. 44) notes, neo-Gramscian GPE perspectives explain the causes of social crises and transformations with reference to “the disintegration of social hegemonies, and the formation of counter-hegemony in the global political economy.”

⁵⁸ Cox (1996b, pp. 116 - 117) expands on his decision to refer to ‘world orders’ as opposed to alternative terms such as ‘inter-state system’ or ‘world system’ with reference to how the term ‘inter-state’ refers only to periods in history when ‘states’ exist whereas ‘world orders’ always exist. His preference of the word ‘order’ instead of ‘system’ is for similar reasons: the word ‘system’ has connotations of equilibrium, whereas the sense in which he uses ‘order’ is to describe “the way things usually happen (*not* the absence of turbulence)”.

Hegemonic historic blocs face their greatest challenges during periods characterised by what Gramsci refers to as an *organic crisis*, which heralds “relatively long-term and permanent changes, as opposed to ‘conjunctural’ [changes]” (Cox 1996b, Note 25, p. 120) that are temporary and can be overcome through ‘problem solving’. As Forgacs (2000, p. 427) explains:

An ‘organic crisis’ is a crisis of the whole system, in which contradictions in the economic structure have repercussions through the superstructures. One of its signs is when the traditional forms of political representation (parties or party leaders) are no longer recognized as adequate by the economic class or class fraction which they had previously served to represent. It is therefore a crisis of hegemony, since it occurs when a formerly hegemonic class is challenged from below and is no longer able to hold together a cohesive bloc of social alliances.⁵⁹

During an organic crisis, “the structures and practices that constitute or reproduce a hegemonic order fall into chronic and visible disrepair, creating a new terrain of political and cultural contention, and the possibility (but only the possibility) of social transformation” (Carroll 2010, pp. 170 – 171).

The agents of social transformation take the organisational form of what Gramsci refers to as ‘the *modern Prince*,’ “a coalition of the rebellious subalterns, engaged in acts of self-liberation of hegemonic politics” (Thomas 2013a, pp. 33). The modern Prince thus refers neither to a ‘concrete individual’ nor to a ‘single centralized entity,’ but to ‘a dynamic collective process’ from which a ‘distinctively new type’ of political party emerges (Thomas 2013a, p. 32). Gramsci’s conception of this new sort of political party envisages it as a ‘collective organism’ that represents “an expansive revolutionary process in movement” and, rather than solidifying and deforming its development with traditional constitutional forms, it represents “a pedagogical laboratory for unlearning the habits of subalternity and discovering new forms of conviviality, mutuality and collective self-determination” (Thomas 2013a, pp. 32 – 33). While organic crises present opportunities for the formation of counter-

⁵⁹ By these criteria, the ‘shock’ outcome of the ‘Brexit’ referendum, where a narrow majority of UK citizens voted for Britain to leave the EU (Kochan 2016), and the US election results that have propelled right-wing populist Republican Party nominee, Donald Trump, into power in what many see as a ‘protest vote’ against ‘globalisation’ by its ‘losers’ (Eichengreen 2016) are seen by some analysts as being signs of a current crisis of hegemony in the advanced capitalist economies.

hegemonic historic blocs by subaltern classes and subaltern social groups working together, whether or not this potential is realised depends on many factors. One crucial variable that affects whether or not a counter-hegemonic bloc can take advantage of an organic crisis to strengthen its position enough to effect real change is how much progress has been made in what Gramsci refers to as the 'war of position.'

Gramsci distinguishes between a *war of manoeuvre* (which entails an attempt to overthrow the state or ruling class, as happened in 1917 in Russia when the Bolsheviks overthrew the tsarist government) and a *war of position* (Rupert 2003). The war of position "is a strategy for the long-term construction of self-conscious social groups into a concerted emancipatory bloc within society" (Morton 2007a, p. 105). The importance of an effective war of position cannot be overstated: "It is only when the war of position has built up a combination of organized social forces strong enough to challenge the dominant power in society that political authority in the state can be effectively challenged and replaced" (Morton 2007a, pp. 105 – 106). For Cox, too, the war of position is essential and constitutes "a long-term task for organic intellectuals working in constant interaction with the groups whose dissent from the established order makes them candidates for inclusion" (Cox 1987, p. 390). But, as history shows, the ruling class is adept at co-opting key elements of dissenting groups (such as the leaders of trades unions and non-governmental organisations that begin as oppositional and then enter 'mainstream' institutions that give them a stake in supporting and upholding the status quo), a tactic Gramsci refers to as *trasformismo*. Another danger is the onset of what Gramsci refers to as *passive revolution*, whereby the war of position strategy is stalled, being "strong enough to provoke opposition, but not strong enough to overcome" those in power (Morton 2007a, p. 106). Thomas (2013a, p. 23) explains that, "In its broadest sense, the notion of passive revolution for Gramsci signified a distinctive process of (political) modernization that lacked the meaningful participation of popular classes in undertaking and consolidating social transformation."⁶⁰

⁶⁰ In the context of the current organic crisis of global capitalism, the more enlightened factions of the ruling class could achieve a passive revolution if they succeed in their

On the other hand, having to resort to retaining power by means of passive revolution demonstrates the underlying weakness of the ruling class as 'revolutions from above' indicate a failure to achieve hegemony through consent, which in turn presents opportunities for counterhegemonic forces to ally in the form of a 'modern Prince' and develop a new kind of consensual politics in the process of engaging in an 'active revolution' (Thomas 2013a, p. 30). In the context of the economic, social and political changes wrought by the neoliberal globalisation project over the past three decades, however, there are many challenges to overcome in the process of building such a counterhegemonic movement. In addition to the dangers of passive revolution and *trasformismo*, subaltern classes and social groups trying to build a counterhegemonic historic bloc face several other formidable challenges. As Cox (1996a, pp. 128 – 129) writes, the strategic implications of the need to win the war of position before attempting to take state power are 'fraught with difficulties':

To build up the basis of an alternative state and society upon the leadership of the working class [or another subordinate group] means creating alternative institutions and alternative intellectual resources within existing societies and building bridges between workers and other subordinate classes. It means actively building a counter-hegemony within the established hegemony while resisting the pressures and temptations to relapse into pursuit of incremental gains for subaltern groups within the framework of bourgeois hegemony.

Regardless of the difficulties of the task, it is crucial that the organic intellectuals of subordinate groups and classes understand that they need to guide the evolution of "...a clearly distinctive culture, organization, and technique, and do so in constant interaction with the members of the emergent block" (Cox 1996a, p. 132). In the process of building a new world within the existing one, working class consciousness must also evolve.

At the time that Gramsci was writing, he distinguished between three levels of working class consciousness, beginning with the 'economico-corporate' consciousness which focuses on the material interests of a particular group, such as

'green capitalism' project, whereby the current fossil-fuel based global capitalism is transformed into a renewable-energy based global capitalism using market mechanisms that open up new avenues of capital accumulation by enforcing the further privatisation of the commons and transforming all of nature into tradeable commodities (as discussed in more detail in Chapters 6, 7 and 8).

workers at a particular workplace (Cox 1996a). At a more advanced level, class consciousness extends to a whole social class and is understood in terms of class solidarity, but remains limited in its focus on economic issues. The most advanced level of consciousness, the ‘hegemonic,’ harmonises the interests of the leading class “with those of subordinate classes and incorporates these other interests into an ideology expressed in universal terms” (Cox 1996a, p. 133). In the nineteenth and twentieth centuries, historical accounts suggest that many workers in the advanced capitalist societies had at least the most basic class conscious awareness that Gramsci refers to (for example, refer to Hyman 1975); this situation was reversed during the Reagan and Thatcher eras, with individualism having widely displaced even this elementary level of ‘economico-corporative’ class consciousness as a result of the weakening of organised labour in advanced capitalist societies and the successes of the ideological work of capitalism’s organic intellectuals in vilifying the labour movement (McIlroy 2011; McIntyre & Hillard 2012).⁶¹ There is, however, one aspect of people’s consciousness that could work in favour of progressive forces: the contemporary wide-ranging ‘common sense’ awareness and discussion about the injustices of ‘globalisation,’ a system that is now widely acknowledged to favour ‘elites’ (the ‘1 per cent’) at the expense of ‘ordinary people’ (the ‘99 per cent’).⁶²

Gramsci identifies one crucial task of the organic intellectuals of subordinate groups as being to draw attention to, emphasise, and elaborate on the “critical elements and ‘good sense’ which are already present within people’s ‘common sense’” (Forgacs 2000, p. 323; see also Hyman 1975). Because ‘common sense’ is neither

⁶¹ Stuart Hall (2011) provides a fascinating account of the 2011 ‘London Riots’ sparked by the death of Mark Duggan, who was shot by police falsely claiming he was threatening them. Duggan’s killing provoked public protests that soon escalated into riots across a number of London boroughs and lasted for nearly a week (6 – 11 August 2011). Subsequent research shows that the participants in these riots were mostly poor, unemployed and young, and Hall explains their motivations with reference to the prevailing ideologies of individualism (that tears the social fabrics of communities) and material consumerism (which urges ‘consumers’ to measure their own and others’ worth in terms of how much ‘stuff’ they have and how many brand-name products they own). Keaney (2014, p. 62) refers to the London ‘rioters’ as “...the fruit of the deindustrialization of the 1980s and the closing of opportunities for semi-skilled and unskilled labor outside of low-paying jobs in the retail and ancillary service sectors.”

⁶² As discussed in more detail in Chapter 4, ‘We are the 99 per cent’ was the popular slogan of the ‘Occupy Movement’ that spread around the capitalist world in 2012 in reaction to government responses to the GFC (Graeber 2013).

‘monolithic’ nor ‘univocal,’ but is rather “a syncretic historical residue, fragmentary and contradictory, open to multiple interpretations and potentially supportive of very different kinds of social visions and political projects” (Rupert 2003, p. 185), much of the war of position is fought on this ideological terrain and it is thus crucial to “engage with what they actually think” if one is to “shift people’s common sense” in progressive directions (Forgacs 2000, p. 324).⁶³ In this ideological ‘war,’ another important Gramscian concept that is crucial is the *ethico-political sphere*: “the ideological, moral and cultural cements which bond a society together” (Forgacs 2000, p. 190). As discussed in later chapters, ethical and moral issues may become more salient as increasing numbers of people and communities suffer as a result of the ecological, economic, social and political crises that are already destabilising many people’s lives and are likely to be exacerbated as global warming continues to manifest in more intense and frequent ‘extreme weather’ events such as extensive droughts, rising sea levels, and other unpredictable changes to the Earth System that affect human productive and reproductive capabilities.

While there is as yet no indication that global warming and the onset of the Anthropocene is the cause of much concern, or even attracting much attention from the general populace in advanced capitalist societies (Hamilton 2017), it is entirely plausible that future catastrophic events related to these developments may provoke such concerns - as well as critiques of the socio-economic system that has caused these shifts in the Earth System and a willingness to experiment with other ways of living. To date, elite responses to hardships experienced as a result of ‘extreme weather’ events have favoured the rich (as discussed in more detail in Chapters 4 and 8), and this tendency to ignore the problems of the poor in the face of ‘natural catastrophes’ is likely to continue; an awareness of this issue may make people more receptive to questioning not only the ability of capitalism to stop damaging the biosphere that all life forms are an integral part of and depend on for

⁶³ The recent outcomes of the ‘Brexit’ referendum (when the majority of British citizens voted to ‘exit’ the Euro zone) (Curtice 2016) and the US election (where nearly all predictions of the outcome were wrong and Donald Trump was voted into power) (Balnaves 2016) are stark reminders of how important it is to engage with what people are actually thinking.

their survival but also the morality of capitalist relations of production, so that social justice issues become increasingly important in the war of position that global justice actors and ecosocialists are engaged in as the organic crisis of global capitalism continues to unfold.⁶⁴ The nature of this organic crisis is critically analysed in Chapter 4 through the lens of the modified MHS perspective whose features are outlined in this chapter.

⁶⁴ It is precisely such social justice issues that are the central concern of ecosocialists, as is discussed in detail in Chapters 6, 7 and 8.

Chapter Four: The Biosphere and social forces in a non-hegemonic world order beset by organic crisis

“The *true barrier* of capitalist production is *capital itself*. It is that capital and its self-expansion appear as the starting and finishing point, as the motive and the purpose of production; production is only production for *capital* and not the reverse, i.e. the means of production are not simply means for a steadily expanding pattern of life for the *society* of the producers.”

(Marx *Capital Volume 3* [1981], p. 358)

In this chapter, the *MHS Redux II* analytical framework is applied in order to critically analyse the causes and effects of the ecological, economic, social and political crises that the extension and intensification of global capitalism engenders. I conduct this analysis by referring to relevant academic literature from many different discipline areas, including GPE, IR, Sociology, Political Science, Economics, Social Movement Studies, Earth System Science, Climate Science, and ecosocialist literature. My main objective in drawing on this wide range of academic literature is to verify ecosocialist accounts that there are, indeed, crises in all these systems and that these crises are interconnected. I apply the *MHS Redux II* framework under sub-headings that reflect a dialectical analysis that shifts the focus of the discussion from how social systems affect the biosphere to how the changed biosphere affects social systems. I begin the chapter with a discussion about the nature of the current world order.

Using Gramsci's definition of hegemony to categorise different structures of world order in the past one and a half centuries as hegemonic and non-hegemonic, Cox (1987) identifies the 1789–1873 liberal world order and the post-World War II capitalist world order as hegemonic. In Cox's analysis, the 'era of rival imperialisms' (1873–1945) was non-hegemonic and was characterised by the instability in the global order that resulted in the twentieth century's two world wars. Writing in 1987, Cox refers to the first hegemonic world order as *Pax Britannica* because Britain reigned supreme and shaped the global economy in its interests; the second hegemonic world order, *Pax Americana*, began when the United States emerged as the clear victor of World War II. This categorisation replaced Cox's initial tentative (1981, 1983) proposal that 1965 signalled the relative decline of US power, and

hence the end of *Pax Americana*. Commenting on developments that followed these earlier writings, Cox adopted the view that US hegemony in world affairs still prevailed into the early twenty-first century after the transition that began in the mid-1970s from the earlier, post-WWII form of Keynesian capitalism to the US-led neoliberal economic globalisation project (Cox with Schechter 2002). In interviews conducted after the 2008 GFC, however, Cox argues that this neoliberal project no longer enjoys widespread support, as evidenced in the popular protests that occurred both in the US and in European countries such as Italy and Greece in the GFC's aftermath (Martin 2013). At the global level, Cox argues that there is also much disquiet about the ability of the US to continue its role as global hegemon, with tensions between the US and an economically-ascendant China, and between the US and Russia, being indicators of the United States' declining power (Schouten 2009).

Despite the US still being militarily and economically dominant (Buzan & Lawson 2014; Starrs 2013), and continuing to exert its influence and power globally in order to ensure the survival and spread of US-dominated global capitalism, the damaging and destabilising effects of neoliberalising policies provoke widespread dissent within global civil society (Bruff 2014; Carroll & Jarvis 2015). This is because, rather than representing a 'universal general interest' whereby a majority of classes and social groups benefit, capitalism overwhelmingly favours a global elite comprising of a TCC and an allied 'transnational managerial class' at the expense of the planet and of the well-being of the vast majority of people. In short, the current world order is non-hegemonic because the project of capitalist globalization that prevails cannot make the concessions that would elicit the widespread support from global civil society that is the prerequisite of hegemony. This understanding led Cox (1996e, p. 155) to conclude that "globalization is not the end of history but the initiation of a new era of conflicts and reconciliations."⁶⁵

⁶⁵ US political economist Frances Fukuyama wrote an influential article entitled 'The end of history?' which was published in a US foreign policy magazine, *The National Interest*, in 1989, and in which he notoriously declared that the collapse of the Soviet Union and the shift to capitalist economies and, more importantly, to western consumer cultures in

In the 1990s, Cox (1996e, p. 155) identified a number of issues that capitalist globalisation could exacerbate, including migration, social polarisation, and ecological issues such as pollution and the over-exploitation of non-renewable resources. Since then, many of these issues have indeed combined to become trigger-points for social conflict and there is overwhelming evidence that the current capitalist world order is experiencing an organic (permanent and system-wide) crisis as a result of the serious and widespread ecological, economic and socio-political harms it engenders as it continues its 'normal' operations. In my analysis, ecosocialists within the wider climate justice and global justice movement are one contingent of the contending groups involved in the resultant contemporary conflicts. Using the neo-Gramscian framework of analysis outlined in the previous chapter, this chapter provides an overview of the nature of the early 21st-century crises as identified and discussed by experts in the relevant discipline areas as well as by ecosocialists. The references to the findings and assessments of experts who are not ecosocialist theorists and activists serve the purpose of providing a means of evaluating the relevance and accuracy of ecosocialist analyses of the current organic crisis.

As noted previously, ecosocialists argue that the most serious of the crises engendered by global capitalism – and those requiring immediate solutions – are the ecological crises as they threaten not only the survival of many living species but also the survival of humanity itself. While natural scientists try to present their findings objectively and generally refrain from making comments about socio-economic and political systems (such as capitalism), they have been increasingly vocal about the urgency of mitigating global warming and the need to stop GHG emissions. Given the centrality of the issue of environmental degradation to ecosocialists, and following the rationale of adding 'Material capabilities: Biosphere' as a category that encompasses the sub-categories of 'productive and reproductive capabilities' in the *MHS Redux II* analytical schema used in this research, this chapter's discussion

the former USSR and in China, signaled "the unabashed victory of economic and political liberalism" (Fukuyama 1989, p. 3).

begins with an overview of scientific explanations of the current environmental crises and their anthropogenic causes.

Material capabilities: The capitalist mode of production and the Anthropocene's unstable biosphere

As discussed in Chapter 3, in this research project the Earth's biosphere is considered to be an 'umbrella' analytical category because it provides the wider context and the foundations on which all other material capabilities depend, including the material productive and reproductive capabilities of all life forms. Reversing the dominant classical economic view (which is also a normative perspective adopted by political leaders, policymakers and many academics) that 'nature' is a passive element and a 'subset' of the economy, in *the MHS Redux II* framework the global economy and its capitalist social relations of production is understood as necessarily existing within the Earth's biosphere (or 'nature') and thus as being subject to the restrictions of the objective laws of physics that living within a natural biosphere impose. Moreover, the relationship between the Earth's biosphere and human production and reproduction is taken to be part of a single complex and evolving dynamic system: while the productive and reproductive capabilities of all life forms are embedded within the confines of the biosphere, a relatively small proportion of humans benefit from productive activities dependent on deploying practices and technologies that radically change this biosphere, and the transformed biosphere in turn affects the productive and reproductive capabilities of all life forms (including the vast majority of humans who are not responsible for the damage to the biosphere). As noted in previous chapters, the impacts of human activities on the biosphere are now so widespread and persistent that they have prompted Earth System scientists to propose the formal demarcation of a new geological epoch: the Anthropocene (Crutzen 2002; Williams & Crutzen 2013). Some theorists argue that because the environmental damage is caused by specifically capitalist relations of production rather than by 'humans' in general (Baskin 2014), it would be more accurate to refer to the new epoch as the 'Capitalocene' (Moore 2016). While there are significant disagreements between analysts and activists about whether or not the word 'Anthropocene' should be replaced by the word 'Capitalocene,' ecosocialists have for

many years made the argument that the capitalist mode of production has particularly damaging effects on the environment because, among other reasons, capitalism is motivated by competition and profit maximisation, which entail minimising costs and focusing on short-term financial gains.⁶⁶ This exploitation of both people and nature spreads geographically as capital expands its operations into ‘underdeveloped’ regions of the world.⁶⁷ However, the global expansion of capitalism occurs unevenly and follows geographically- and historically-specific trajectories that differ across space and time because “...once capitalism is established in one part of the world it affects and changes the form of transition to capitalist development elsewhere” (Ashman 2009, p. 36). In two seminal works, the *History of the Russian Revolution* and *The Permanent Revolution*, Leon Trotsky expands on and deploys the concept of ‘uneven and combined development’ as an analytical tool for understanding these characteristics of capitalism.⁶⁸

Applying the concept of ‘uneven and combined development’ to the environmental issues that are the focus of his analysis, ecosocialist James O’Connor discusses how these features of the global expansion of capitalism not only spread but also intensify the environmental degradation inherent in capitalist relations of production. Emphasising unequal power relationships, O’Connor defines ‘uneven development’ with reference to development characterised by exploitative relationships “between town and country (centre/periphery; developed/underdeveloped country)” and ‘combined development’ with reference to how the

⁶⁶ Some ecosocialists argue that the term ‘Capitalocene’ is both confusing and counter-productive, constituting an unwarranted and unnecessary attack on the very scientists who should be applauded for their efforts to demarcate the post-WWII expansion of global capitalism, which these scientists refer to as the ‘Great Acceleration,’ as the beginning of the Anthropocene (Angus 2016).

⁶⁷ With the ‘underdevelopment’ being measured against the ‘development’ of advanced capitalist economies, and using crude indicators such as Gross Domestic Product (GDP) that fail to consider either the environmental costs or the distributional outcomes of increases in GDP.

⁶⁸ The understanding that capitalism develops unevenly has been traced back to the writings of Marx and Engels, and this understanding also informed Lenin’s analyses of imperialism (Löwy 2010; Pröbsting 2016). In the interests of not straying too far from the main concerns in this research project, I refer the reader to Desai, Freeman and Kagarlitsky (2016) for a concise overview of the way in which uneven and combined development explains the expansion of global capitalism after imperialism’s ‘Thirty Years’ Crisis’ (1914 – 1945) that began with the outbreak of World War I.

geographical growth of capitalist relations of production combine “...the most profitable features of development [such as ‘advanced technology, industrial organisation and division of labour’] and underdevelopment [such as a disciplined and cheap labour force] in a new unity which maximises profit increases” (O’Connor 1989, pp. 1-2). Some of the environmentally damaging effects of uneven development that O’Connor identifies in rural, periphery and underdeveloped regions include: deforestation (primarily as a result of clearing land to facilitate agribusiness) and the associated environmental problems this causes (for example, soil loss, aridity, and droughts); the intense exploitation of resources such as fossil fuels and other minerals, and the pollution associated with mining and processing these resources; and the degradation of land and waterways associated with agribusiness practices of monoculture and the usage of polluting chemical fertilisers and pesticides. ‘Combined development,’ whereby capital relocates manufacturing operations to underdeveloped regions with low wages and lax environmental regulations, damages previously ‘underdeveloped’ Global South environments by exporting both dangerous products (such as chemicals banned in the advanced capitalist countries) and pollution from the Global North. O’Connor (1989, pp. 10 – 11) concludes that:

When uneven and combined development of capital are themselves combined, it would appear that super-pollution in industrial zones may be explained by super-ecodestruction of land and resources in raw material zones, and vice versa. Depletion and exhaustion of resources and pollution depend on one another; they are the necessary result of the same universal process of capital ‘valorisation’. Depletion/exhaustion and pollution are thus not independent issues. The natural wealth of the world is depleted and turned into garbage, often dangerous garbage, through global capital accumulation. And the unwanted by-products – pollution – have the effect of depleting/exhausting resources. Put formally, the greater the profit rate, the greater the accumulation rate, the greater the rate of depletion/exhaustion which indirectly leads to a greater rate of pollution.

While the environmental degradation and destruction that are a natural part of capitalist relations of production take a variety of forms that affect all ecosystems, ecosocialists have been receptive to, and fully support, the arguments of many scientists that global warming, climate change and ocean acidification are the most

pressing symptoms of the anthropogenic damage to the biosphere in the current conjuncture and for the foreseeable future.⁶⁹ The primary cause of global warming and ocean acidification is the widespread use of fossil fuels that emit CO₂, the predominant GHG currently forcing global warming (Australian Academy of Sciences 2015; IPCC 2014c).⁷⁰ Fossil fuels are essential in the operations of global capitalism as they are used not only for generating the energy required for the production of goods and services but also for the transportation of goods and people around the globe (Smith 2013; Tanuro 2013). In addition, fossil fuels and products derived from them are essential in the operations of large-scale agribusiness practices (Magdoff 2015), which also contribute substantially to the emission of two other extremely potent and long-lasting GHGs, methane and nitrous oxide (IPCC 2014c). While the energy derived from fossil fuels is central to the operations of global capitalism as it

⁶⁹ While 'global warming' and 'climate change' refer to different (albeit related) physical phenomena and are both used by scientists depending on the context, scientific bodies such as NASA use the term 'climate change' in their public communications (Conway 2008). 'Climate change' is also the preferred term in mainstream media and orthodox accounts of the current anthropogenic changes to the Earth System, but this terminology has an ideological function as it can be (and has been) used to argue that this is part of a natural cycle ('climate has always changed') and detracts attention from the more threatening issue that the global climate is, on average, warming, and that it is the resultant energy imbalances within the overall Earth System that are causing climate change. Foster (2017) mentions the issue of terminology in the conclusion of his article on the implications of Donald Trump being the president of the US: "...to sum up, we should be grateful to Trump.... Merely by re-embracing the term 'global warming' rather than its Bush-edict replacement 'climate change' – which was dutifully adhered to by Mr yes-we-could-have Barack Obama throughout his 8-year term - Trump has already done more to save the planet than Obama did. Framing is everything. Obama played the game and never went off script. Trump does not read scripts. This is not the first, and will not be the last, cat he lets out of the PR bag." This is a reference to the advice provided by a PR consultant to the Bush administration to refer to 'climate change' rather than 'global warming' because US citizens found the former term less alarming. The confidential memo with this advice was leaked and is available online (The Luntz Research Companies 2002), and its general advice on how Republican politicians should approach environmental issues is also very revealing.

⁷⁰ Some scientists are, however, concerned that concentrations of methane may prove to be more significant than CO₂ concentrations (Canadell *et al.* 2016). According to Canadell *et al.* (2016), methane emissions have been increasing in the past twenty years, with the concentration of this gas "growing ten times faster" since 2007 than it did in the early 2000s, and increasing "faster still in 2014 and 2015." Anthropogenic sources of methane emissions include agricultural activities and the mining and use of fossil fuels such as coal, oil and natural gas (Canadell *et al.* 2016). Schwietzke *et al.* (2016, p. 88) argue that while methane emissions from fossil fuel extraction and use do not appear to be increasing, previous accounting of these emissions was inaccurate and their measurements show that they "are 20 to 60 per cent greater than inventories."

has historically developed and currently operates (Brand & Wissen 2013; Rickards, Wiseman & Kashima 2014), an overwhelming number of scientific findings, now published on an almost daily basis in academic journals and in some newspapers, confirm the urgency of decreasing GHG emissions that are the by-products of burning these fossil fuels.⁷¹

Increasing concentrations of GHGs in the Earth's atmosphere as a result of human activities have raised the Earth's average global temperature by 0.85°C over the period 1880 to 2012 (IPCC 2013; PIDCOCK 2014) and by an additional approximately 0.35°C in the four years since 2012, bringing the increase to approximately 1.2°C above pre-industrial levels by the end of 2016 (Rawlins 2017; WMO 2016a).⁷² Apart from raising the average global temperature, the energy imbalances that result from a greater concentration of GHGs in the atmosphere have a variety of effects on the complex and interconnected Earth System (Hansen *et al.* 2016; Harrison *et al.* 2016).⁷³ An example of how changes due to rising temperatures in one part of the Earth System affect other parts is evident if one considers the way in which the melting of ice sheets not only results in sea level rise, but also increases the volume of low-density freshwater in the oceans (Hansen *et al.* 2016). This change in the composition of the water in the oceans affects global ocean circulation patterns (Hansen *et al.* 2016; Liu *et al.* 2017), which in turn affect cloud formation (Norris *et al.* 2016) and thus precipitation patterns (Chadwick, Good, Martin & Rowell 2016). In

⁷¹ An example of one such alarming news report is from 25 November 2016, when *The Guardian's* leading headline on the front page of its 'International' website was (for a few hours) 'Arctic ice melt could trigger uncontrollable climate change at global level' (Harvey 2016). This article referenced a very worrying scientific Arctic Council (2016) report with details about this development and was an update on an article published the previous day about the same issue. The prominence given to the article was unusual (and therefore even more alarming than such articles normally are) in that while *The Guardian* is one of the more diligent newspapers when it comes to reporting consistently and scientifically on climate change and environmental issues, very few such articles are given front page coverage.

⁷² The most recent IPCC report predicts increases in the average global temperature within a range of 1.5°C and more than 4°C above pre-industrial levels (depending on what action is taken to reduce GHG emissions) by the end of the twenty-first century (IPCC 2013). Some climate science experts, such as Kevin Anderson (2015) and James Hansen (2016), argue that these predictions, dire as they are, err on the side of being conservative.

⁷³ The energy imbalance is caused by more energy entering the Earth's atmosphere than is re-radiated into space as a result of the GHGs trapping the incoming heat.

addition, as the oceans absorb CO₂, ocean acidification has increased to unprecedented levels.⁷⁴ Moreover, ocean acidification exacerbates other problems arising from large-scale capitalist economic activity, such as the commercial depletion of fish stocks and the disruption of the nitrogen cycle as a result of large-scale, fertilizer-intensive commercial agricultural practices (IGBP, IOC, & SCOR 2013; UNEP 2016b). In summary, research unequivocally demonstrates that anthropogenic GHG emissions and the resultant global warming, in addition to many other environmentally damaging economic practices, are radically changing ecosystems, oceans, and the biosphere of which these subsystems are a part.⁷⁵ These changes have consequences (many of them adverse) for all life forms that have evolved to live in the relatively stable climatic conditions of the pre-Anthropocene biosphere that existed during the Holocene (Williams & Crutzen 2013).⁷⁶

Neoliberal capitalist institutional responses to the need to reduce GHG emissions and maintain a habitable planet

Despite even neoliberal institutions such as the World Bank (2014) and the World Economic Forum (WEF 2016) identifying global warming as a high-ranking issue of concern among their lists of ‘threats’ to the global economy, the neoliberal agenda

⁷⁴ Recent research indicates that the rate of ocean acidification (in 2013, this was estimated to be a 26 percent increase since the beginning of the industrial revolution) may be faster than at any time in the last 300 million years. Oceanographers predict that this will decrease the ocean’s capacity to absorb CO₂ and thus negatively impact on its role in moderating climate change. Marine scientists are also concerned about how ocean acidification will interact with multiple other stressors, such as overfishing and pollution, and what the outcomes of such interaction will be. Some predicted effects include adverse impacts on biodiversity, aquaculture, food webs, and people — especially vulnerable people who rely on the oceans for their subsistence (IGBP, IOC, SCOR 2013; Laffoley & Baxter 2016).

⁷⁵ The IPCC’s *Climate Change 2013 Physical Science Basis Summary for Policymakers* (p. 2) states that “Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentration of greenhouse gases have increased,” and the IPCC warns that “Continued emissions of greenhouse gases will cause further warming and changes in all components of the climate system. Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions” (IPCC 2013, p. 17).

⁷⁶ For examples of detailed discussion of some of these changes, refer to Duarte’s (2014) paper on changes to marine systems; Hüttel *et al.*’s (2014) paper on the ways in which ecosystems are changing; McCallum’s (2015) paper on biodiversity loss and the ‘sixth great extinction’; and Ostberg *et al.*’s (2015) paper on the effects of land use on the biosphere.

of further developing a global political economy with minimal restrictions on capital accumulation continues to encourage practices that cause serious environmental damage both directly and indirectly. Examples of such practices include the building of new fossil fuel power plants (Davis & Socolow 2014; Shearer *et al.* 2016), the implementation of environmentally damaging trade treaties (Aykut 2016; Gallagher 2016; Sierra Club 2016) and, more generally, the relentless promotion of a narrowly-conceived 'economic growth' ideology that relies on ever-increasing consumerism (Foster, Clark & York, 2010). While many ordinary people around the world are concerned about anthropogenic global warming and want policymakers to address this issue, two decades of negotiations at the UNFCCC COPs have failed to agree on decisive and effective measures to mitigate it (Buxton 2016; Rickards, Wiseman & Kashima 2014).⁷⁷ The most recent intergovernmental agreement negotiated in 2015 at COP-21 in Paris – the *Paris Agreement* - has even regressed, replacing the Kyoto Protocol's nominally mandatory GHG reduction targets with the purely voluntary INDCs of GHG reductions (UNFCCC 2015). Scientists such as Rockström *et al.* (2016, p. 469) argue that "each day without a zero carbon roadmap increases the stakes in our global climate gamble," and leading climate scientist and prominent climate movement activist James Hansen has gone as far as calling the *Paris Agreement* a 'fake' and a 'fraud' (Milman 2015).

Material capabilities: The biosphere's responses to capitalist profit-maximising practices

In turn, the physical responses to 'business as usual' in the actually-existing Earth System conform entirely to the laws of physics (Nuccitelli 2017b) and include: ice sheets melting and causing sea levels to rise (Arctic Council 2016; WMO 2016c); ocean acidification and warmer oceans bleaching coral reefs (Laffoley & Baxter 2016); and 'extreme weather' events in the form of excessive precipitation and flooding, extreme and prolonged heatwaves, prolonged droughts (WMO 2016b) and

⁷⁷ Citizen concerns about global warming are shown in the results of surveys, such as the US survey analysed by Stanford University Professor Jon Krosnik, who found that at least 65% of respondents thought humans were causing it and that most respondents supported government action to curb GHG emissions (Cook 2013). The growing climate activist movement, which is discussed in detail in Chapter 6, is another indicator of peoples' concerns about global warming and other anthropogenic threats to ecosystems.

the increasing frequency of widespread and poorly-understood ‘extreme wildfires’ (Sharples 2016).⁷⁸ These physical manifestations of the Earth’s changing biosphere devastate natural ecosystems (Arctic Council 2016; Feldpausch *et al.* 2016) and communities that live in them and rely on them for their livelihoods and survival (Hughes *et al.* 2016; Nolt 2015; UNISDR 2016; WHO 2016).⁷⁹ Given the logic of the ‘non-negotiability’ of the laws of physics, how is one to understand the failure of authorities to take decisive and effective action?

While many climate movement actors argue that one important reason for this failure is the immense power and influence that the fossil fuel industry has within the global political economy (Bruno, Karliner & Brotsky 1999; InfluenceMap 2015; McKibben 2012b), ecosocialists, while agreeing with the observation that the fossil fuel industry has great power and influence, present a much more profound and far-reaching analysis of the causes of inaction in the face of the unfolding crisis.

Ecosocialists argue that beyond the power of the fossil fuel industry, wider issues of capitalist social relations of production and of class dynamics are the underlying reasons for the inaction of policymakers despite the fact that it is in the realm of human capabilities to address one of the greatest threats humanity has ever faced as a species (Angus 2016; Foster, Clark & York 2010; Kovel 2007; Weston 2014; Williams 2010).

⁷⁸ So unprecedented are some of these ‘extreme’ weather events, the new terminology being used to describe them is almost incomprehensible, with the unexpected 2017 Montana and North Dakota drought in the US now being referred to as a ‘flash drought’ (McLauchlin 2017).

⁷⁹ Studies linking ‘extreme weather’ events such as prolonged droughts and flooding to global warming is a current focus of several research projects, some of which are summarized by Stott (2015) and the WMO (2016b). Importantly, the authors of the WMO (2016b) report on natural disasters point out that while it was true that individual weather events could not be attributed to climate change before the 1990s, such attribution claims are now possible but are either ignored or publicly disputed by policymakers and are also being ignored by mainstream media.

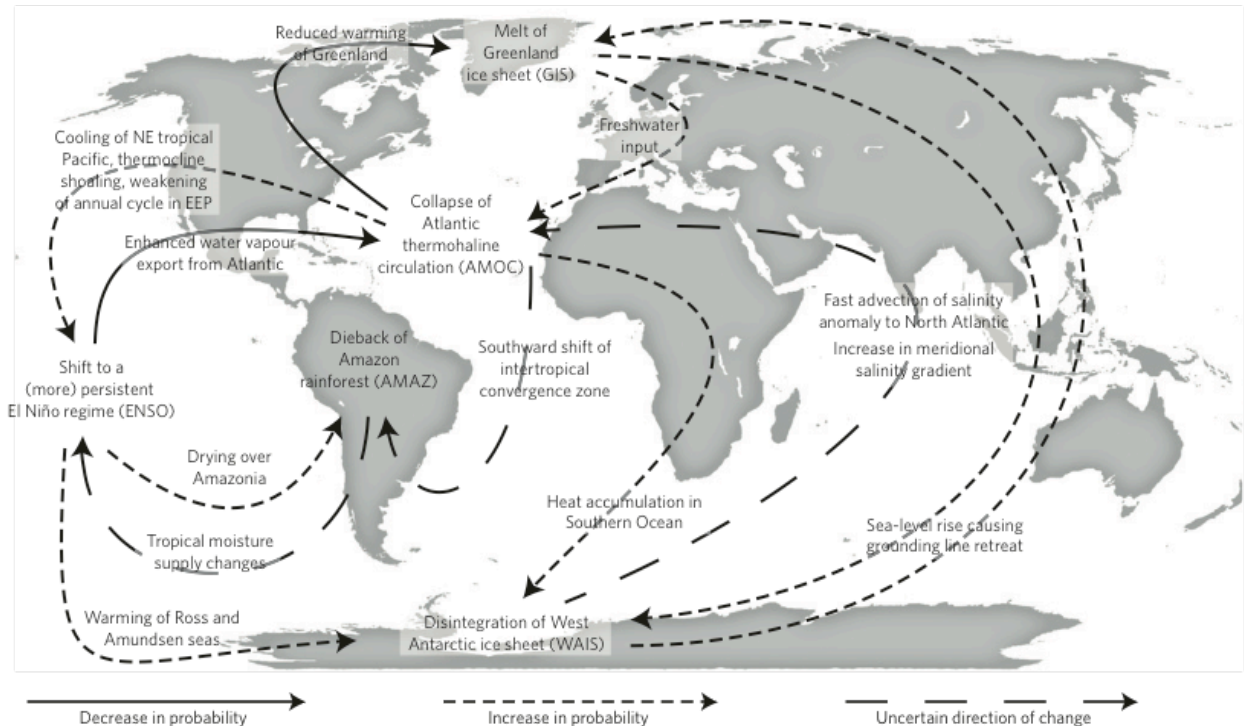
Material capabilities: Class and reproductive capabilities in the Anthropocene

As ecosocialist Ian Angus (2016) bluntly points out, with respect to the effects of global warming and climate change “we are not all in this together.”⁸⁰ In the short term at least, and perhaps even in the medium term, affluent people with sufficient resources can insulate and protect themselves from the worst immediate effects of global warming and climate change (Angus 2016; see also di Muzio 2015). However, given the uncertainties involved, it is highly likely that even the wealthiest and most privileged will not be able to ‘buy’ their way out of the longer-term effects of a changing biosphere if it shifts to a different state. Scientists warn that changes within complex systems are non-linear and unpredictable, and that sudden shifts within the physical Earth System could take everyone by surprise if poorly-understood, planetary-tipping boundaries are crossed (Cai, Lenton & Lontzek 2016; Lenton *et al.* 2008; Rockström 2009).⁸¹ A graphical depiction of some potential tipping points, as well as some of the possible interactions between them, are shown in Figure 7 below.

⁸⁰ “We are not all in this together” is the title of Chapter 11 in Angus’ (2016) book, *Facing the Anthropocene: Fossil capitalism and the crisis of the earth system*.

⁸¹ According to Rockström (2015, p. 5), four out of nine planetary boundaries have been transgressed: biosphere integrity, interference with the nitrogen and phosphorous cycles, climate change and land use change.

Figure 7: Map of five potential climatic tipping points and possible effects on other elements of the Earth System



Source: Cai, Lenton & Lontzek (2016, p. 521)

Despite the currently dominant factions of global elites and policymakers choosing to limit their responses to these unfolding ecological disasters to woefully inadequate, voluntary and incremental measures that are not legally binding and that experts calculate will result in rising average temperatures of 3.2°C even if fully implemented (UNEP 2016a), Naomi Klein is correct to conclude that when it comes to climate change, ‘this changes everything’ (Klein 2014): no amount of politicking can change the reality of how the actually existing Earth System responds to physical inputs and outputs.⁸² As Steffen *et al.* (2011, p. 862) point out when comparing the ideologically-informed rejection of Darwinian evolution to a similarly ideologically-

⁸² Refer to Farrell (2016) for an analysis of corporate links to sources of misinformation about the reality and severity of climate change.

based denial of the urgency of reducing anthropogenic GHG emissions in order to mitigate climate change⁸³:

Darwin's insights into our origins provoked outrage, anger and disbelief but did not threaten the material existence of society of the time. The ultimate drivers of the Anthropocene, on the other hand, if they continue unabated through this century, may well threaten the viability of contemporary civilization and perhaps even the future existence of *Homo sapiens*.

While many of those with the wealth and power to control world affairs apparently feel themselves to be exempt from the laws of physics and believe themselves to be invincible (perhaps because they rely on some future, as yet undiscovered or undeveloped, technological innovation to save the day), ecosocialists and climate justice movement actors are concerned about how many of the least powerful, poorest and most vulnerable people who do not even contribute to global warming are the first to suffer from its effects (Harrington *et al.* 2016; Savo *et al.* 2016)

Damaging effects of global warming range from changing weather patterns disrupting normal agricultural production and threatening food supplies (IPCC 2014a) to increasingly powerful typhoons killing thousands and leave millions homeless (Campbell 2013). It is not only disadvantaged people in the Global South that suffer the consequences of 'business as usual': poor and vulnerable people and communities in the so-called 'advanced' capitalist countries, who can ill afford to deal with additional crises, also face the devastating effects of changing weather patterns and 'extreme weather events' that result from global warming. The lack of resources and preparedness of poor communities when Hurricane Katrina struck New Orleans in 2005 greatly exacerbated the effects of the disaster (Schlosberg & Collins 2014), and poorer people also suffered worse consequences as a result of Hurricane Sandy seven years later.⁸⁴ These examples illustrate that whether they live

⁸³ UNEP (n.d.) explains the meaning of climate change mitigation as follows: "Climate change mitigation refers to efforts to reduce or prevent emissions of greenhouse gases. Mitigation can mean using new technologies and renewable energies, making older equipment more energy efficient, or changing management practices or consumer behavior."

⁸⁴ In the aftermath of Hurricane Sandy, the realities of capitalist social relations asserted themselves in how "reconstruction assistance was allocated disproportionately to homeowners rather than tenants, even though the latter were more likely to be in the lower-income bracket" (IDMC 2015, p. 51), and how over 39 000 people who had to

in the Global North or in the Global South, the already-precarious existence of disadvantaged and poor communities further exacerbates their vulnerability to the effects of global warming and the resultant 'extreme weather' (Leichenko & Silva 2014). Given the evidence, ecosocialists argue that climate change is not a Global North/Global South issue: it is a *class* issue because in a capitalist system the material resources that individuals and communities have access to determine their life chances in a variety of ways, including in how effectively they can cope with the ravages of 'extreme' weather events. These 'extreme' weather events are, moreover, occurring at a time when the reorganisation of the material forces of production and the shifting balance of power in the social forces of production (that is, in the balance of power between capital and labour) result in more and more Global North workers joining the ranks of the disadvantaged communities of the Global South as they 'fall' into precarious existences and poverty as unemployment rises due to the relocation of manufacturing and other industries to cheaper labour havens in the Global South, and as governments continue to implement 'flexible labour market' and wage repression policies that lead to underemployment and the casualisation of work (Heyes, Lewis & Clark 2012).

The balance of social forces and its implications for the reproductive capabilities of labour and subaltern groups in a global capitalist world order

The uneven and combined development that characterises the geographical expansion and intensification of capitalist social relations of production has important outcomes vis-à-vis the relative strength of global capital and global labour. The labour movement in the advanced capitalist economies is now relatively weaker than it used to be in the 1960s and 1970s because of the greatly enlarged global reserve army of labour, which is a consequence not only of the increasing proletarianisation of populations in the Global South (Bieler 2012) but also of the incorporation of China and the previous Eastern Bloc countries into the global

evacuate their homes in 2012 because of what came to be known as 'Superstorm Sandy' were still in need of housing assistance in 2015.

capitalist economy (Jefferies 2015).⁸⁵ Technological and managerial innovations facilitating changes in the organisation of how and where goods are produced, together with policies implemented by national governments to create 'flexible labour markets' and facilitate the free flow of capital across borders, shift the labour force to countries where organised labour is weak while simultaneously greatly compromising the ability of the working class in the advanced capitalist economies to defend their jobs, wages and working conditions (Harvey 2010). The role of institutions and social facts in the implementation of these changes should not be underestimated: as many theorists point out, the changes are, to a large extent, the result of a globally-conceived and implemented neoliberalising project which takes specific forms in different places and at different times, depending on the historically-shaped 'local' national conditions. Overall, however, the United Nations Conference on Trade and Development (UNCTAD) 2016 *Trade and Development Report* states that there has been a general global increase in inequality of income distribution since the late 1970s and early 1980s, accompanied by a rising trend of profit seeking by depressing wages and financial rent-seeking rather than through innovation and investment. In addition, privatisation, deregulation and lower public expenditures on essential social services such as healthcare and education further impoverish wage earners (especially the most vulnerable who depend on state programmes), while simultaneously increasing profit opportunities in the private sector by providing new areas for capital investment (UNCTAD 2016). While UNCTAD's focus is primarily on 'developing' countries, the report also refers to 'stagnant demand' for the commodities produced in the Global South due to austerity policies implemented in some countries after the 2007/8 GFC and rising unemployment and precarious employment in the Global North (UNCTAD 2016), trends confirmed by several other analysts (for example, Cronin 2013; Piketty 2014; Piketty & Zucman 2014).

⁸⁵ The reserve army of labour is a Marxist concept and refers to the ranks of currently unemployed workers whose mere existence gives employers greater bargaining power when determining the wages and working conditions for those fortunate enough to be employed.

Drawing on evidence gleaned from a variety of official statistical data sources, economist Thomas Piketty (2014, p. 471) points out that “...in the second decade of the twentieth century, inequalities of wealth that had supposedly disappeared [in the twentieth century after, and largely due to, the two world wars] are close to regaining or even surpassing their historical highs.”⁸⁶ More importantly, on the basis of his historical investigation, Piketty (2014, p. 571) concludes that while there are mechanisms that could diminish inequality (which he refers to as “powerful forces for convergence”), inequality is an inherent feature of capitalism:

The overall conclusion of this study is that a market economy based on private property, if left to itself, contains powerful forces of convergence, associated in particular with the diffusion of knowledge and skills; but it also contains powerful forces of divergence, which are potentially threatening to democratic societies and to the values of social justice on which they are based. The principal destabilizing force has to do with the fact that the private rate of return on capital, r , can be significantly higher for long periods of time than the rate of growth of income and output, g . The inequality $r > g$ implies that wealth accumulated in the past grows more rapidly than output and wages. This inequality expresses a fundamental logical contradiction. The entrepreneur inevitably tends to become a rentier, more and more dominant over those who own nothing but their labor. Once constituted, capital reproduces itself faster than output increases. The past devours the future. The consequences for the long-term dynamics of the wealth distribution are potentially terrifying, especially when one adds that the return on capital varies directly with the size of the initial stake and that the divergence in the wealth distribution is occurring on a global scale.

In short, Piketty points out that an initially unequal distribution of wealth results in increasing wealth inequalities, both logically and in practice.⁸⁷

⁸⁶ A January 2017 briefing paper published by Oxfam claims that only eight men own as much wealth as the poorest 50 percent of the global population (Oxfam 2017). Another staggering statistic in the same briefing paper is that the richest 1% has owned more wealth than the rest of the global population (the 99%) since 2015. Evaluating the integrity of these claims, Australian National University Professor Peter Whiteford concludes that they are supported by the best available data and that, even if the disparities between the wealthiest minority and the poorest majority are not as great as reported in the briefing paper, they are nevertheless ‘massive’ (Whiteford 2017).

⁸⁷ While Piketty has been widely praised for his empirical research, the theoretical basis of his analysis (particularly the way in which he defines ‘capital’ and the way his analysis omits any considerations of class) and the solutions he proposes, have been critiqued by many analysts (for example, Peet 2015; Reitz 2016; Thompson 2014). It is also important to note that Piketty (2014) largely ignores ecological economics in his brief

Rising inequality is a concern to some mainstream economists (the organic intellectuals of the ruling class, in Gramscian terminology) because it can contribute to economic crises, and hence also to political crises and social instability that could threaten global capitalism as a system. For example, Piketty argues that rising inequality was a contributing factor leading to the 2007/8 Global Financial Crisis (GFC). While praising governments and central banks for 'saving' the global financial system in the aftermath of the GFC by injecting liquidity, Piketty (2014, p. 473) also points out that "...they did not really provide a durable response to the structural problems that made the crisis possible including the crying lack of financial transparency and the rise of inequality." Economists such as Piketty are well aware of the political dangers of this situation, as the following extract that discusses taxation as a proposed solution to capitalism's structural tendency to precipitate financial crises and growing inequalities demonstrates:

Taxation is not a technical matter. It is pre-eminently a political and philosophical issue, perhaps the most important of all political issues. Without taxes, society has no common destiny, and collective action is impossible. This has always been true. At the heart of every major political upheaval lies a fiscal revolution. The *Ancien Régime* was swept away when the revolutionary assemblies voted to abolish the fiscal privileges of the nobility and clergy and establish a modern system of universal taxation. The American Revolution was born when subjects of the British colonies decided to take their destiny in hand and set their own taxes. ("No taxation without representation"). Two centuries later the context is different, but the heart of the issue remains the same.

Piketty (2014, pp. 492 – 493)

Using a problem-solving approach, Piketty thus argues for the implementation of reformist policies such as progressive taxation and a global tax on capital because of his keen awareness of the role of political democracy as a justification for capitalism – for example, he states the following as an 'essential truth': "...defining the meaning of inequality and justifying the position of the winners is a matter of vital importance, and one can expect to see all sorts of misrepresentations of the facts in service of the cause" (Piketty 2014, p. 487). He candidly points out that "...in a

discussion on climate change, which is confined to a few observations about how climate change will negatively affect GDP and a few statements on the importance of protecting 'natural capital.'

democracy, the professed equality of rights of all citizens contrasts sharply with the very real inequality of living conditions, and in order to overcome this contradiction it is vital to make sure that social inequalities derive from rational and universal principles rather than arbitrary contingencies. Inequalities must therefore be just and useful to all, *at least in the realm of discourse and as far as possible in reality as well*" (Piketty 2014, p. 422, emphasis added). The role of the organic intellectual of the ruling class as justifier of class inequalities is transparent in this particular statement: even if social inequalities themselves cannot be avoided, they *must be seen as being 'just and useful to all,'* even if only 'in the realm of discourse'! This exhortation perhaps constitutes an implicit acknowledgement by Piketty that the structural 'problems' he refers to are deeply embedded within the global capitalist economy's operations and may prove impossible to reform given existing power relationships. As Heyes, Lewis and Clark (2012) argue, governments now depend on 'finance-led growth' both directly (because of the jobs and tax revenues the finance sector generates) and, perhaps more importantly, indirectly: finance capital provides 'cheap, unsecured credit' that boosts effective demand in economies that would otherwise stagnate because of the low wages imposed on workers.⁸⁸

Forms of state and social forces in a neoliberalising capitalist world order

The reasons for governments' dependence on finance-led growth are deeply structural and can be explained with reference to the financialisation of capitalist economies since the early 1980s (Lapavitsas & Mendieta-Muñoz 2016). Lapavitsas (2013) argues that because large corporations frequently use retained profits to finance their investments and also engage in independent financial operations and trading, the finance sector has positioned itself to find alternative sources of profits: transactions in financial markets, fees and commissions they charge as intermediaries in financial transactions, and transactions with households and individuals. Financialised capitalism relies on the deep penetration of finance into household and individual revenues that enable what Lapavitsas (2014, p. 37) refers

⁸⁸ Harvey (2010, p. 107) explains that a lack of 'effective demand', "defined as wants, needs and desires backed by ability to pay," results in capitalist economic crises of 'underconsumption.'

to as the ‘financial expropriation’ of profits “directly from wages and salaries” in the form of interest made on household mortgages and on individuals’ unsecured consumer loans. Not only are individuals forced to borrow to meet basic needs in order to supplement low incomes and because of the state’s retreat from public provisioning of health, education and other essential services, but they are also forced to hold ‘substantial financial assets’ themselves because of the privatisation of previously public pension funds (Lapavitsas 2013).

By implementing ideologically informed neoliberal financial and labour market deregulation policies, and by restructuring tax regimes in favour of the rich and thus eroding the revenue base with which social provisioning can be funded, national governments have been complicit in the central position that finance capital now enjoys in national economies (Bruff 2014; Heyes, Lewis & Clark 2012; Keaney 2014; Lapavitsas 2013, 2014). States also back powerful independent central banks that set ‘benchmark interest rates’ and use public money to provide liquidity to the finance industry in times of crisis, thus giving “a vast public subsidy to the capitalist class as a whole” (Lapavitsas & Mendieta-Muñoz 2016, p. 51; see also Bin 2015). These features of capitalism imply that despite concerns about the political fallout of rising inequality raised by economists such as Piketty, who try to defend liberal democratic ideals in their attempts to save the capitalist system from itself, it is not clear how the system can be ‘reformed’ given the power of corporate and financial interests and the way in which these interests successfully counter any attempts to regulate or control their operations – attempts that government officials and policymakers in any case make only half-heartedly (Desai, Freeman & Kagarlitsky 2016; Helleiner 2013; Keaney 2014; Peck 2013; Stiglitz 2009; Wade 2009). Despite the historical evidence he has amassed and discusses at length in his book, Piketty remains ‘optimistic’ that democracy can ‘regain control over capitalism,’ although he admits that there is no basis for this optimism:

Has the US political process been captured by the 1 percent? This idea has become increasingly popular among observers of the Washington political scene. For reasons of natural optimism as well as professional predilection, I am inclined to grant more influence to ideas and intellectual debate.

The evidence that Piketty himself refers to in *Capital in the Twenty-first Century* indicates that 'representative democracy' is little more than a hollow concept since it represents the interests of wealthy elites and the well-paid and powerful managers that manage their affairs rather than the general interest. Moreover, there is much evidence that people suffering the effects of policies that favour 'the 1%' are aware of their situation and no longer trust mainstream politicians and the major political parties to represent their interests (Keaney 2014; Peck 2013): the economic crisis has become a political crisis of legitimacy, which provides further evidence that the current crisis is organic (in the Gramscian sense) rather than conjunctural and presents a system-wide weakness that erodes the consensus on which hegemony depends.

Forms of state, institutions and social facts: Liberal representative democracy as a 'hollow concept' in a neoliberalising capitalist world order

With governments implementing policies that have, over the years, favoured large and powerful financial institutions and multinational corporations, national economies have become increasingly intermeshed and dependent on these firms and institutions. As a result, government representatives and policymakers declare themselves unable to secure their citizens' social and economic wellbeing except in the limited way of accommodating capital in order to attract investment to 'strengthen' the economy and thereby to secure jobs (Bruff 2014; Carroll & Jarvis 2015), and for many years large segments of the populations of Global North societies seemed to have accepted this 'truth' that 'there is no alternative' so that it became what Sinclair refers to as a 'social fact'. But social facts are not immutable, and the 2007/8 GFC initiated a widespread questioning of the expansion and intensification of global capitalism (Brands & Feaver 2016). As the economic and social effects of the financial crisis that originated within US financial institutions worked their way throughout the global economy (Karanikolos *et al.* 2013), the unwillingness of governments (with the notable exception of Iceland) to discipline

the financial sector became particularly evident.⁸⁹ To many people, governments' unilateral decisions to use taxpayer money and to put taxpayers into further debt in order to bail out the rich, when the same governments have been arguing for decades (and continue to argue) that they do not have the money to support essential social programs that many working class and poor people rely on just to get by, demonstrated that the major political parties are themselves responsible for implementing and defending policies that favour the rich at the expense of everyone else (Keane 2013; Ortiz, Burke, Berrada & Cortés 2013; Taibbi 2012, 2013).

Recent academic research provides evidence supporting the widely-recognised popular understanding that economically powerful elites and organised business groups strongly influence United States (US) government policy "while average citizens and mass-based interest groups have little or no independent influence" (Gilens & Page 2014, p. 564). This systemic deficit in political representation for 'average citizens' is not confined to the United States; it is a widespread phenomenon characterising many western democracies (Chou 2015; Cox 2015; Matthjis 2014). One response by ordinary people has increasingly manifested as a tendency to use the political institutions at their disposal to vote against global elites whenever they get an opportunity to do so, with the 'Brexit' outcome of the June 2016 UK referendum on European Union membership and the November 2016 election of populist Republican maverick Donald Trump as US president being the most recent examples (Brands & Feaver 2016; Desai, Freeman & Kagarlitsky 2016; Waddock 2016).

Populist politicians such as Trump are elected on the basis of their nationalist and anti-immigrant rhetoric, jingoism and promises that they will create local jobs or implement other policies to protect national populations against the ravages of neoliberal globalisation (Fouskas 2016), but it is unlikely that they will meet their

⁸⁹ Widespread and persistent protests against the Icelandic government's acceptance of IMF conditions for a loan needed to bail out the banks that crashed as a result of the GFC resulted in the government's resignation and the election of a new government that temporarily nationalized the banks and implemented measures that reduced household and non-financial business debts (Hart-Landsberg 2013).

election promises once in power (Widmaier 2016).⁹⁰ An illustrative example of the powerlessness of voters in liberal democratic political systems to effect systemic change through formal democratic institutions is evident in the ongoing drama of the continuing economic crisis in Greece. While the majority of the Greek people clearly voted SYRIZA — which grew out of the Radical Left Coalition formed in 2004 and emerged as an electoral political party in 2012 — into power with the mandate to end austerity policies (Witte 2015), the SYRIZA government has proved unwilling or unable to follow the people’s mandate and continues, instead, to impose the increasingly severe and socially damaging austerity policies dictated by what Greek people disparagingly call ‘the Troika’ (the International Monetary Fund, the European Union, and the European Central Bank).⁹¹ The inability or unwillingness of official political representatives to address the economic, environmental, and social damage caused by the expansion and intensification of global capitalist relations of production has forced many to turn to alternative means of expressing their frustration. As Robert Cox put it, “people don’t believe in politics any more” (Cox cited in Martin 2013, p. 221).

The social dynamics of protest in a non-hegemonic neoliberalising capitalist world order

Unable to achieve meaningful change through legal political institutions, an increasing number of people have resorted to participating in civil disobedience mass actions such as the 2011/12 *Occupy Movement* protests (della Porta 2012).

⁹⁰ As many political analysts note, however, it is important to distinguish between different forms of populism: while Donald Trump in the US, Marine le Pen in France, and Pauline Hanson in Australia represent right-wing populist politicians who advocate socially damaging policies, some left-leaning politicians such as Jeremy Corbyn in the UK, Bernie Sanders in the US and the late Venezuelan president, Hugo Chávez, are often similarly derided in the media as ‘populist’ while, in reality, their policies represent progressive ideals (albeit to varying degrees).

⁹¹ For detailed discussions outlining conditions leading to SYRIZA’s rise, refer to Bournous and Karatsioubanis (2015); Spourdalakis (2014); Stavrakakis and Katsambekis (2014); and Verney (2014). The impasse between the Greek government and its creditors (Inman 2015), which saw the SYRIZA government completely capitulate to the demands of ‘the Troika’ in July 2015 and split (with the Left Faction forming a separate party, *Popular Unity*, in August 2015), is a clear demonstration that even relatively ‘radical’ elected governments have negligible power when it comes to implementing progressive policies on behalf of the people they represent if these policies threaten elite interests.

While the relatively long-lasting Occupy camps in US and UK public squares and parks were forcibly disbanded in what appeared, at least in the US, to be a co-ordinated action by authorities (Ramsey 2012), protests over a variety of economic, environmental and social issues continue to occur in many parts of the world (Caraus & Parvu 2016; Carothers & Youngs 2015; CIVICUS 2016; Koukouvelis 2016; Ortiz, Burke, Berrada & Cortés 2013; Youngs 2017). The early days of the Trump administration's ascension to power in particular heralded a renewal of mass protest activities both in the United States and worldwide (Jamieson 2017).

The first mass action against the Trump administration was the *Women's March* on Washington, that aimed to include people from a variety of social groups threatened by its policies by organising under the principle that 'Women's Rights are Human Rights and Human Rights are Women's Rights' (Women's March on Washington 2017). Taking place on 21 January 2017, the day after the inauguration of Donald Trump as president of the United States, the *Women's March* has been described as an 'anti-Trump protest' to demonstrate resistance against policies such as Trump's "...plans to repeal the 2010 Affordable Care Act, which among other things requires health insurers to cover birth control" (Khomami 2017). It included several solidarity marches in other US cities as well as in cities around the world that were organised by "Women's March Global, the international arm of the Washington arm" (Khomami 2017) and is estimated to have attracted between 3,200,000 and 5,200,000 participants in the US and between 260,000 and 360,000 participants in other countries (Pressman & Chenoweth cited in Bridges & Tober 2017). Another significant mass civil disobedience action involving thousands of participants occurred at airports across the United States on 29 January 2017 to protest against Trump's executive order to impose "a freeze on refugee admissions and a ban on travel from seven Muslim-majority countries" (Gambino *et al.* 2017). These protests also spread globally, with one example of a solidarity action being the marches attended by tens of thousands of participants across the UK protesting Prime Minister Theresa May's state visit invitation to President Trump (Gayle & Slawson 2017). Other notable mass protest actions against President Trump and his administration's policies included the 15 April 2017 *Tax March* demanding that he

release his tax returns (Stevens 2017), the 22 April 2017 *March for Science* to counter the Trump administration's repeal of environmental protection laws and its funding cuts to environmental protection agencies and research projects on crucial issues such as climate change (Milman 2017b), the 29 April 2017 *People's Climate March* demanding socially just action on climate change (Fandos 2017), and the 12 August 2017 Charlottesville (Virginia) protest against the rise of US right-wing extremism which is perceived as being fuelled by the Trump administration's policies (Alpher 2017). At the transnational level, an estimated 200,000 anti-capitalist protesters gathered in force in Hamburg on 7 and 8 July 2017 to protest against the G20 Summit (Oltermann 2017) in an action reminiscent of the 1999 alter-globalization anti-WTO protests in Seattle (Price 2016).

Ongoing sporadic protests such as these demonstrate that an increasing number of people belonging to, or supporting, subordinate groups that include large segments of the working class, refugees, migrants, minority groups, students, and people with disabilities, are becoming concerned enough to take action in the form of protests against the negative material and social outcomes that they have to suffer as a result of policies that favour elites (CIVICUS 2016). Few of the protests have resulted in changes that benefit ordinary people; on the contrary, ruling elites respond with thinly-veiled disdain for the concerns of their citizens, as they did in the aftermath of the 2003 global anti-war demonstrations, in which millions of people participated both in the US and in many cities around the world (Carty 2009; Hil 2008).⁹² These global anti-war demonstrations signalled people's opposition to the 2003 military invasion of Iraq by the 'Coalition of the Willing' – an invasion led by the US Bush administration on the basis of false intelligence reports that Iraq had secret "weapons of mass destruction" (Fawcett 2013; Herring & Robinson 2014-15; Western 2005). The 2003 invasion of Iraq is just one of the many conflicts affecting the lives of millions of people around the world as the United States and its allies

⁹² Estimates of how many people participated in these protests vary: Hil (2008) reports an estimated total of 10 million people in over 800 cities, while Carty (2009) reports an estimated total of 15 million people in 75 cities. As McPhail and McCarthy (2004) point out, attendance numbers at such mass protest events are often disputed, with authorities tending to downplay the numbers and organisers and supporters tending to exaggerate them.

attempt to control the development of global capitalism in a way that best suits their economic interests and the US desire to retain its status as the world's sole global hegemon. The geopolitical instability this engenders results in many needless deaths, much suffering, and immense and long-lasting environmental damage.

Destructive material capabilities in an unstable world order: 21st century military conflicts and their effects on the Biosphere and people's productive and reproductive capabilities

The year 2003 heralded a significant development in global politics, with the United States bypassing the international legal requirement of obtaining UN Security Council authorisation for its proposed military action in Iraq (Franck 2003, 2006; Kramer, Michalowski & Rothe 2005).⁹³ The millions of people around the world protesting against military action were also ignored (Anderson, Bennis & Cavanagh 2003; Anderson, Bennis, Cavanagh & Leaver 2003) and the invasion proceeded. The invasion of Iraq set off a chain of events that resulted in the deaths of "tens if not hundreds of thousands" of Iraqi civilians (Fawcett 2013) and the rapid rise of Islamic State (IS) (Arbatova & Dynkin 2016), thereby triggering off the massive (and ongoing) destabilisation of the Middle East (Barton 2016; Ezrow 2016; Fawcett 2013; Newsinger 2015). The long-term effects of the invasion of Iraq continue to unfold throughout the world in the form of terrorist attacks that are met by further repression by authorities, which leads to more terrorism and creates a vicious circle of escalating violence (Keane 2015; Stern & McBride 2013). The armed conflicts that have subsequently erupted in the destabilised Middle East and North Africa (MENA) region have also contributed to the 'record-high' numbers of 'displaced' people worldwide (ICRC 2016), many of them seeking refuge in Europe (UNHCR 2016; WEF 2016).⁹⁴ This unprecedented displacement of large numbers of people has prompted

⁹³ US policymakers decided to bypass the UN procedures because France, Russia and Germany opposed war with Iraq (Kramer & Michalowski 2005), and a Security Council resolution authorising it was likely to be vetoed (Anderson, Bennis & Cavanagh 2003; Anderson, Bennis, Cavanagh & Leaver 2003).

⁹⁴ According to a United Nations High Commissioner for Refugees report, by the end of 2015 "... 65.3 million individuals were forcibly displaced worldwide as a result of persecution, conflict, generalized violence, or human rights violations. This is 5.8 million more than the previous year (59.5 million)" (UNHCR 2016, p. 2). The total number of

not only a refugee crisis but also very dangerous nationalist, xenophobic and racist reactions from some European politicians and citizens (CIVICUS 2016; Saull 2015). Another effect of the spiral of violence is the loss of many fundamental civil rights that were previously taken for granted in western liberal democratic societies (Cox cited in Martin 2013; Jarvis & Lister 2013), including the right to privacy: as revealed by Edward Snowden, ordinary people all over the world are now subjected to widespread and indiscriminate surveillance (Altschuler 2015; Brevini 2015) publicly justified with reference to the 'War on Terror.'

The effects of the 2003 invasion of Iraq illustrate how the foreign policy of the United States and its allies, particularly in the MENA region, but also in their dealings with China and the Russian Federation, generates an increasingly unstable world order that further delegitimises global ruling elites in the eyes of many people - especially those living in the affected regions. The US-led attack on Iraq occurred in the context of the second Bush Administration's response to the September 2001 al-Qaeda terrorist attacks on US territory, which was to declare a 'War on Terror' (Krebs & Lobasz 2007). This 'War on Terror' was to be conducted through what has come to be known as the 'Bush Doctrine,' a policy characterised by unilateralism, 'pre-emptive war' and 'regime change' (Jervis 2016) coupled with a violation of the Geneva Conventions.⁹⁵ Afghanistan was the first target of the 'War on Terror,' and the US and its allies invaded the country in 2001, launching a long-term conflict that spilled over into Pakistan (Shaw 2013; Roberts 2009) and is still ongoing. This was followed by the illegal invasion of Iraq in 2003 (Kramer & Michalowski 2005) and the arrest, show trial (Peterson 2007), and execution of its president, Saddam Hussein. The next target of 'regime change' was Libyan president Muammar Gaddafi, who was killed by the US- and NATO-supported anti-government National Transitional

refugees at the end of 2015 was estimated to be 16.1 million people, "...the highest level in the past two decades and approximately 1.7 million [people] more than the total reported 12 months earlier" (UNHCR 2016, p. 13).

⁹⁵ The Geneva Conventions are part of a body of international law that stipulates that "parties to armed conflict protect civilians and non-combatants, limit the means or methods that are permissible during warfare and conform to rules governing the behaviour of occupying forces" (Kramer & Michalowski 2005, p. 451) and some legal experts argue that the Bush administration's failure to conform to these stipulations in the 2003 Iraq war constitute state crimes (Kramer & Michalowski 2005; Kramer, Michalowski & Rothe 2005).

Council in 2011 (Karniel, Lavie-Dinur & Azran 2015). US foreign policy is also involved in, or provides support to, a variety of other military attacks against the successor to al-Qaeda, IS, in countries such as Syria (Guerlain 2014) and Yemen (Borger & Jacobs 2017; Clausen 2015; Mazzetti, Hubbard & Rosenberg 2016). These military actions have further destabilised the MENA region, killing and maiming an unknown number of innocent civilians and causing much ongoing suffering in the region (Crawford 2013, 2016; Dehghan & Alghobary 2017; Shaw 2013). The instability is compounded by US support for Israeli enmity against Iran (Pillar 2016), which is also a regional rival of another US ally, Saudi Arabia (Guerlain 2014; Mazzetti, Hubbard & Rosenberg 2016). Adding further complexities to the unstable MENA region is the US rivalry with China, which has become “the second-largest trading partner in the Arab world, and the first trading partner of nine Arab states” as well as the Gulf’s main oil client since 2014 (Kausch 2015). US conflicts with Russia are also evident in the war in Syria, where Russia’s only remaining external naval base is located in the Mediterranean port of Tartus, and where Russia has intervened against US efforts to achieve regime change (Kausch 2015).

Tensions between the US and its NATO allies on the one hand and Russia on the other are also evident in the Ukraine, a potential flashpoint for a conflict that could escalate to dangerous levels. As Desai, Freeman and Kagarlitsky (2016, p. 490) point out, the 2013 ‘Maidan protests’ in the Ukraine occurred “...under the usual banners of democracy and self-determination, [and] the West sponsored regime change to install a new government friendlier [than the deposed Yanukovich government] to the West and more open to EU and NATO membership...” US relations with Russia deteriorated rapidly in the aftermath of Russia’s subsequent annexation of Crimea in 2014. While Russian President Vladimir Putin’s ‘ambitious,’ ‘power-hungry,’ ‘dictatorial personality’ is often cited as the reason for this annexation (MacFarlane 2016), more nuanced (albeit Realist) analyses of the situation explain the Russian government’s actions in the Ukraine with reference to its “genuine national interest in preventing outside powers from acquiring a foothold on the territory of the

former Soviet Union” (Götz 2015, p. 5).⁹⁶ Götz points out that the Russian government had three compelling geostrategic reasons to annex the Crimea after the overthrow of Ukraine President Viktor Yanukovich in 2014: the geographical location of the Ukraine and its proximity to the Volga region, “the industrial and political heartland of the Russian Federation”; attempts by the EU to not only threaten the market share of many Russian exporters in the Ukraine through enticing the Ukrainian government to sign an association agreement, but also to threaten Russia militarily as this agreement “includes clauses to integrate Ukraine into the EU’s common security and defence policy”; and the generally pro-Western orientation of the new Ukrainian government. As Götz argues, given similar circumstances, the US would react similarly (as, indeed, it has on several occasions, even under conditions that were much less provocative than those faced by the Russian government in the Ukraine). Burke-White (2014) emphasises these double standards by pointing to the fact that the Russian government’s legal justifications for its intervention in Crimea took “a card straight from America’s playbook” (pp. 65 – 66):

Russia’s international legal actions in Crimea are similar to those of the US throughout most of the past 70 years. America, too, has sought to expand the right to self-determination in Kosovo and, more recently, South Sudan. And Washington has been happy to exploit, and even expand, the lax standards of attribution in international law in places ranging from Nicaragua in the 1980s to Libya in 2011.

(Burke-White 2014, p. 73)

While Burke-White’s argument is premised on the view that the international state-system emerging after the end of the Cold War is multi-polar and that the US should be aware of the dangerous precedents its ‘international legal exceptionalism’ set,

⁹⁶ Refer, also, to Desai, Freeman & Kagarlitsky (2016), who reference Mearsheimer as another Realist scholar who argues that the conflict in the Ukraine was provoked by the West. Desai, Freeman and Kagarlitsky provide their own detailed critical analysis of the US-led conflict against Russia in the Ukraine. They point out that “...many Western myths about Ukraine... typically lack a focus on the political economy of the region... or of the volatile geopolitical economy of imperialism in an age of increasing multipolarity”, and argue that “unless the confrontation in Ukraine is placed in these contexts, it is difficult, if not impossible, to grasp the causes and dynamics of the social and military evolution of the crisis or the seriousness of the confrontation over Ukraine and the potential it contains for war” (Desai, Freeman & Kagarlitsky 2016, p. 490).

Jervis (2016) argues that the end of the Cold War heralded the 'emergence of unipolarity' and that US power is such that it cannot be challenged in the foreseeable future. Furthermore, Jervis adds, US foreign policy in the post-9/11 era is defined by the 'Bush doctrine,' according to which:

...there are no universal norms or rules governing all states. On the contrary, order can be maintained only if the dominant power behaves quite differently from the others. Thus the administration is not worried that its preventive war doctrine or attacking Iraq without Security Council endorsement will set a precedent for others because the dictates do not bind the United States.

(Jervis 2016, p. 297)

Such assertions of US hegemonic dominance in a post-Cold War unipolar world system are refuted by critical GPE accounts such as that presented by Desai, Freeman and Kagarlitsky (2016, p. 499), who argue that analyses presenting the US as a hegemon are 'misleading scholarship' (*ibid.*, p. 504) and point to the many indicators demonstrating that "...the US's victory in the Cold War had been largely pyrrhic":

By the early 1990s, a decade of neoliberalism had failed to revive its productive economy and resulted only in an increasingly financialised pattern of weak growth. The increasing economic closeness between the Anglo-American and continental West European economies also rested on volatile foundations as Eurozone financial institutions were drawn into the maelstrom of dollar-denominated capital flows and asset bubbles. Such benefits as the Europeans derived from this brief financial dalliance soon proved costly as, outside the US, the costs of the 2008 financial crisis fell most heavily on the Eurozone, also laying the basis of its separate crisis two years later.

(Desai, Freeman & Kagarlitsky 2016, pp. 499 – 500)

Furthermore, Desai, Freeman and Kagarlitsky (2016, p. 498) argue that analyses "positing more or less inevitable aggrandisement and conflict between powerful actors" facilitate the "demonization of leaders who challenge Western dominance as dictators" and exacerbate the dangers of military conflict because they are used by US policy-makers to 'give theoretical dignity' to their ambitions and to legitimise military adventurism, whether this outcome is intended or not. Furthermore, while facilitating the legitimisation of military conflicts, such analyses simultaneously obscure 'the real drivers of capitalist international relations,' and particularly the current conflicts, which are driven by the fact that "...the US lead in the size of its

economy, on which its power rested, is now threatened as is Western pre-eminence generally” as the centre of the global economy shifts to China and other emerging economies (Desai, Freeman & Kagarlitsky 2016, p. 498). In light of these developments in the global economy, successive US administrations try to maintain US dominance in global affairs using all means at their disposal, and this could perhaps even include deploying the US’s overwhelming military power in a major conflict (Trautsch 2015). In addition to the conflicts discussed above, US reactions to the perceived threats presented by China to the balance of power in the East-Asian region constitutes another key ‘pressure point’ that may result in military conflict that could potentially escalate dangerously.

Under the auspices of the Obama Administration’s 2011 ‘Pivot to Asia’ policy initiative, the US is poised to intervene militarily in China’s maritime and sea-territorial disputes with a number of other countries in the East and South China seas (Krause 2014; Morton 2016; Xinbo 2016), with the Trump administration’s emerging policies greatly increasing the likelihood of such military intervention (Greene 2016; Haas 2017; McCurry 2017). As is the case with Russia and the Ukraine, China’s attempts to secure its ‘near neighbourhood’ in the South and East China seas can be seen, from the Chinese government’s perspective, as

...natural and justified in light of [the] geographic location and the importance of those waters to China’s strategic interests. Command of the near seas concerns not merely the security of China’s most prosperous cities along the coastland; such command is also intimately tied to reunification with Taiwan and the struggle for sovereignty over the disputed land features in the East and South China Seas.

(Wu 2016, p. 405)

Despite the plausibility of such ‘defensive’ motivations, China (like Russia) is presented in Western media, and in many Western foreign policy analyses, as adopting an ‘assertive’ or ‘aggressive’ stance in its neighbourhood that is, it is claimed, directly challenging ‘Western interests’ (for example, refer to Buszynski 2017 and Panda 2016). This argument serves to justify the US ‘Pivot to Asia’ which, in military terms, involves redeploying some of its ‘military assets’ such as aircraft carriers, submarines, and warships from the Middle East and Europe to the Asia

Pacific region (Kamp 2015). The 'pivot' or 'rebalancing' also involves the US establishing more military bases in the region as well as entering agreements that give it access to military bases in allied territories (Carter 2016) in preparation for potential military confrontations with China. As noted previously, however, critical GPE theorists argue that US confrontations with China and Russia are largely motivated by economic concerns; Hudson (2016, p. 557), for instance, argues that China's rising economic power is threatening to US interests in many ways:

It provides other countries, rich as well as poor, with alternative trade and financial options. And it threatens US control over international economic governance, undermining the legitimacy of its power in existing institutions via the deadlocked WTO... and the increasingly isolated IMF and World Bank. Building alternative economic institutions in the face of US and Western resistance reflects the emerging multipolar reality.⁹⁷

The abundant natural gas and fishery resources at stake in the maritime disputes are additional economic factors informing the US challenge to China's dominance in this region (Morton 2016). Along similar lines, the US is keen to ensure that US-based corporations acquire access to Russia's gas markets in Europe, where they intend to sell their shale gas (Chanis 2012; Dunn & McClelland 2013; Ebinger, Massy & Avasarala 2012; Kausch 2015; Ratner *et al.* 2015), and the provocation leading to Russia's annexation of the Crimea (Cypher 2016) presented a perfect excuse for the US to press its European allies to stop importing natural gas from Russia (Davenport & Erlanger 2014; Goldenberg 2014). In addition to these broader economic interests that contribute to US military interventions in various parts of the world, there are many other ways in which conflict benefits US corporations. The fact that US

⁹⁷ Hudson's (2016b) discussion of the way in which the IMF broke its own rules when it lent money to the Ukraine constitutes an interesting example of how this institution works and whose interests it protects. The IMF also changed one of its rules, the rule specifying "that the IMF respect inter-sovereign debt," so that the Ukraine could receive the IMF loan despite repudiating its debt to Russia (Hudson 2016b, p. 560). But perhaps the most interesting and revealing aspect of this incident is the timing of the change of the IMF rule: "Part of the reason why the IMF and the United States waited until the last minute to change the rule was the need to use the old set of rules against Greece before changing them for Ukraine. A waiver for Ukraine would have provided a precedent for Greece to ask for a similar waiver on paying the 'troika'... which was pushing its economy into a depression worse than the Great Depression in the United States.... Only after the Greek capitulation could Russia be safely isolated" (Hudson 2016b, pp. 561 – 562).

companies such as former Halliburton subsidiary, KBR, profit immensely from government contracts to build and maintain military bases (Vine 2015) is also significant. These corporations are, moreover, not the only economic beneficiaries of conflict, with the sale of weaponry itself constituting a lucrative industry that generates billions of dollars in annual sales (Rufanges 2016; Guay 2015) and partly drives what Cypher (2016) refers to as the US governments' "relentless pursuit of global militarism."⁹⁸ War, and the tools of war that generate enormous profits, are not only an integral part of capitalist economies but also constitute yet another way in which wealth is transferred from taxpayers to private corporations (Vine 2015) and a particularly perverse cause of unnecessary, severe, and long-lasting ecological damage.

Material capabilities: The effects of capitalist militarism on the biosphere

In addition to the economic drain on scarce public resources that could be better spent on measures addressing climate change and on social programs that advance the development of humanity, the many negative consequences of the current militarism, which is driven by capitalist rivalries, include the immense environmental damage that is caused both by the 'normal' operations of military bases (Vine 2015) and by wars (Al-Azzawi 2016; Collins 2015; Kiernan 2015; Lawrence *et al.* 2015; Mathieson 2014), issues which security analysts generally ignore. Traditional IR theorists and security analysts limit their concerns regarding the environment to the way in which 'resource scarcity' and climate change can serve as 'threat multipliers' that can contribute to future conflicts (Livingstone 2015; Milman 2016), or to the way in which the effects of climate change might damage military infrastructure (Milman 2016). In addition, while some traditional IR theorists and security analysts theorise about the possibility of nuclear war (Frühling & O'Neil 2017), their concerns are generally confined to geostrategic issues and seldom extend to the environmental damage and human deaths and suffering that would result from such a conflict. Conversely, analysts of the social and environmental costs of wars and

⁹⁸ Six American corporations, which rank among the top eight firms with earnings based on 'defense-related revenues', dominate the global defense industry (Guay 2015).

nuclear weapons fail to include discussions of the wider context within which these weapons are manufactured, tested, sold, and deployed: for example, while Kristensen and McKinzie (2015) discuss the environmental and social costs of detonating nuclear weapons, and Crowley and Ahearne (2002) discuss how the ensuing environmental damage can be ‘managed,’ the authors of both papers neglect the role of the wider economic and geostrategic interests that constitute the underlying causes of these problems.

In contrast to the problem-solving approaches dominating analyses of the geostrategic issues discussed above, ecosocialist Ian Angus (2016) situates his discussion of the causes and effects of global warming and climate change within the wider context of a critical analysis of capitalism. As part of his critique, Angus explains that the environmental impacts of detonating nuclear weapons, contrary to any notions that they can be ‘managed,’ are so severe and so long-lasting that geologists working in the Anthropocene Working Group are considering “Residues from hydrogen bomb explosions that began in 1952 [and] peaked in 1961-62, leaving a clear worldwide signature” (Angus 2016, p. 57) as a potential ‘stratigraphic signature’ marking the end of the Holocene and the beginning of the Anthropocene. This reference to debates about the origins of the Anthropocene constitutes part of Angus’s wider discussion that critically analyses capitalism as the underlying cause of the current and interrelated ecological, economic and socio-political crises – that is, in the context of a discussion that ‘connects the dots’ between these issues and thus better reflects the complexity of the real world than analyses that adopt single-issue problem-solving approaches.

‘Connecting the dots’: A prelude to a detailed discussion of the role of ecosocialist theory

It is not surprising that many of the discipline experts whose work is cited in this chapter adopt a problem-solving approach, focusing narrowly on some issues while neglecting others. Ecosocialist John Bellamy Foster points out that:

...as a rule, the social sciences are compromised from the start. As shown in particular by the discipline of economics, they are

ideologically compelled to answer all concrete issues in terms set by capitalism, excluding any perspective that seriously challenges that system or its boundaries. Social scientists are thus discouraged from questioning – or indeed even naming – the fundamental structures and workings of the historical system in which we live. It follows that the social-scientific contributions most relevant to our understanding of the causes and imperatives of climate change have originated outside the mainstream of academic social science, in critical analyses of capitalism.

(Foster 2017b)

One of the greatest strengths of ecosocialist critical analyses of the causes of the current ecological, economic and socio-political crises is their ability to ‘connect the dots’ and illuminate the interrelationships between all the issues outlined in this chapter. Before discussing ecosocialist theory and analysis in more detail, however, in Chapter 5 I critically analyse official institutional responses to global warming and climate change with reference to the establishment, evolution and outcomes of the primary international and intergovernmental institutions designed to facilitate these responses: the IPCC and the UNFCCC.

Chapter Five: Institutional responses to a changing Biosphere – The IPCC and the UNFCCC

“The IPCC is what it is. It isn’t an activist organization, and it doesn’t include the full range of climate change possibilities in its reports. It produces summaries on the scientific consensus about global warming – and it is a profound commentary on how badly capitalism has damaged our world that the IPCC’s conservative statements of fact constitute a powerful indictment of the capitalist system.”

(Ian Angus 2007a)

In this chapter I present an overview of the discovery of anthropogenic global warming and of official responses in the form of the establishment of a set of institutions to address the dangers it poses. The origins and evolution of the two primary institutions established to deal with climate change, the IPCC and the UNFCCC, are discussed at the ‘world order’ and ‘forms of state’ levels in this chapter (refer to Chapter 3, *Figure 6: Spheres Redux Version II*), and constitute necessary background information to my overview of the ‘social dynamics,’ the climate movement operating within the domain of civil society, in Chapter 6. My analyses in both this chapter and the next also include some discussion of the roles of different factions of capital and of labour (Cox’s ‘social forces’). This analysis is furthermore conducted with reference to the material capabilities of different actors, dominant institutions, social facts, and competing ideas (refer to Chapter 3, *Figure 5: Forces Redux Version II*). The analysis in this chapter demonstrates the validity of ecosocialist claims that the institutional arrangements making up the official climate change ‘regime’ are incapable of achieving their stated aim of avoiding dangerous climate change (for example, refer to the ecosocialist positions represented in the writings of Angus 2016; Foster 2017b; Klein 2014; Kovel 2007; Longo, Clausen & Clark 2015; Löwy 2015; Tanuro 2013; Tokar 2014; Williams 2010).⁹⁹

⁹⁹ ‘Regimes’ are central to neo-liberal institutionalist IR theories, which build on the work developed by Robert Keohane and Joseph Nye (Burchill 2013). Citing Stephen Krasner’s definition of a regime as a set ‘of implicit or explicit principles, norms, rules, and decision-making procedures,’ Zelli (2011, pp. 255 – 256) points out that “a regime can be identical with a single treaty, but usually embraces a larger set of agreements under the same legal umbrella and associated policy processes,” including not only treaties such as the Kyoto Protocol but also the UNFCCC and regulations of other

Ecosocialists and other climate justice activists and advocates focus most of their critique of the formal climate change regime mechanisms on the serious inadequacies of the UNFCCC's outcomes (particularly since COP-15 in Copenhagen in 2009, which is discussed in more detail in Chapter 6). Like other analysts writing about official responses to climate change, ecosocialists widely (and appropriately) cite the content of IPCC reports on the physical science of climate change to corroborate their evaluations of the severity of anthropogenic global warming and the urgent need to take immediate effective action in order to mitigate further warming. Ecosocialist discussions of the IPCC include critiques of this institution, particularly related to its inherent tendencies to err on the side of conservatism (Angus 2007a). In this chapter I build on ecosocialist critiques of this intergovernmental scientific body by discussing its origins and evolution and demonstrating that the entire climate change regime (including the IPCC) was designed to forestall and prevent socially just and ecologically benign solutions to anthropogenic global warming. I would like to emphasise that, far from seeking to criticise the many scientists who volunteer their time and services (often at great personal cost) to produce the IPCC assessment reports, my aim is rather to demonstrate that these scientists work within a context that is designed to constrain the use of scientific evidence to support rational policymaking in achieving GHG emission reductions and reorganising social relations of production appropriately.¹⁰⁰ By way of introducing the key issues and actors involved, my discussion begins with how the first US Bush Administration responded to a prominent scientist's testimony about dangerous anthropogenic global warming.

organisations which also regulate policies relevant for climate change (for example, the WTO). De Lucia (2009, Note 5, p. 240) similarly refers to the climate regime as comprising "primarily of the climate regime proper (UNFCCC, the Kyoto Protocol and related organs and bodies), but also of other UN agencies and institutions such as UNEP, UNDP, other international organizations such as the World Bank etc."

¹⁰⁰ This is an issue that at least some IPCC scientists seem to be aware of, as evidenced by the comments one of the IPCC authors made at a February 2017 *Expert Meeting on Communications* organised by the IPCC to discuss its communication strategies for AR6. In response to a colleague who argued that the IPCC had failed in its efforts to communicate the urgency of the situation, one of the participant scientists said: "The mandate of the IPCC is to be relevant without being prescriptive.... This is very [restricting]... In a sense, we are like a physician who is allowed to diagnose a sickness, to comment on a list of potential treatments, but who is prevented... [from] prescrib[ing] a specific treatment" (IPCC 2017a).

Official responses: constructing social facts about anthropogenic global warming

On 23 June 1988 Dr James Hansen, the then head of the US National Aeronautics and Space Administration (NASA) Goddard Institute for Space Studies, made a landmark testimony before the United States Senate Committee on Energy and Natural Resources. In this testimony, Hansen informed the Reagan Administration that the accumulation of anthropogenic GHGs in the Earth's atmosphere was causing dangerous global warming due to the greenhouse effect, and that this was leading to climate change (Baer 2014).¹⁰¹ While Hansen was not the first scientist to link global warming to the accumulation of anthropogenic GHG emissions in the Earth's atmosphere, this testimony has been described as a pivotal point in contemporary environmental politics in that it brought the issues of global warming and climate change to the attention of policy makers, the media, and the public (Hecht & Tirpak 1995; Holmes 2015; Milman 2015).¹⁰² By restricting media access to climate

¹⁰¹ A conjuncture of extreme weather events in 1988, including that this was the hottest US summer on record, made Hansen's testimony particularly salient (Armitage 2005; Agrawala & Andresen 1999; Bodansky 2001). As Armitage (2005, p. 420) recounts: "The world seemed to get a glimpse of its climate future in 1988. Heat and drought caused severe crop losses in the American Midwest, the worst since the Dust Bowl of the 1930s. The USSR suffered drought, as did China. Unexpected floods ravaged Africa, Brazil, Bangladesh and India. Hurricanes struck the Caribbean, along with a cyclone in New Zealand and a typhoon in the Philippines. These disasters provided compelling background to the political events of 1988, the most dramatic year in the history of the politics of climate change."

¹⁰² Scientific investigations into the relationship between GHGs and the Earth's average temperature date back to the nineteenth century. In 1824 Joseph Fourier first proposed that the Earth's atmosphere traps some of the heat radiating back into space from the Earth's surface and in 1861 John Tyndall identified the gases responsible for this effect; in 1896 Svante Arrhenius' calculations estimated that a doubling of CO₂ in the atmosphere from burning fossil fuels would raise average global temperatures by 5°C to 6°C (which is similar to the range estimated by today's climate scientists) although he did not foresee the exponential rate at which CO₂ concentrations would increase – a fact demonstrated by the now-famous 'Keeling Curve' that plots the continuous measurements of CO₂ levels in the atmosphere that began under the supervision of Charles David Keeling in the 1950s (Bodansky 2001; Union of Concerned Scientists 2012; World Bank 2014). In 1965, when US President Johnson asked his President's Science Advisory Committee to report on the potential problems of environmental pollution, the Committee's report included a 23-page appendix providing the first official warning that CO₂ emissions from the burning of fossil fuels 'could rapidly reshape Earth's climate' (Peterson, Connolley & Fleck 2008; see also Agrawala 1998a). One major uncertainty debated amongst climate scientists after 1965 was the extent to which aerosol cooling from pollutant particles in the atmosphere was counteracting

scientists and by editing major reports on climate change and systematically ensuring that information from such reports was not used in other government policy documents, the incoming administration of George HW Bush (1989 - 1993) attempted to prevent Hansen and other US climate scientists from communicating their results (Armitage 2005; Rich & Merrick 2007).¹⁰³ Legal scholars Rich and Merrick (2007, pp. 243 - 244) point out that the George HW Bush Administration's control of information about climate science did not violate US federal laws and regulations, and that they used three key legal frameworks to more directly control the dissemination of scientific information to the public: they implemented the Data Quality Control Act in 2001, established a centralised peer review process directly under White House control in 2004, and gave greater powers to federal agencies "to designate material as 'classified' and 'sensitive but unclassified'" (Rich & Merrick 2007, pp. 243 – 244).

Like the Bush Administration, the conservative Harper Government (2006-2015) in Canada also "gutted environmental legislation, terminated environmental monitoring programs, muzzled government scientists, and laid off over 2000 researchers from federal labs" (Pelley 2015, p. 528). While the current Trudeau Liberal Party government has reversed some of these measures, other policies (such as the Harper Government's 20% reduction of government science department budgets) present a longer-term erosion of the Canadian climate science research

greenhouse warming, but by 1978 James Hansen and his team of researchers had concluded that 'greenhouse warming had become the dominant forcing' (Peterson, Connolley & Fleck 2008, p. 1329), a result confirmed by numerous subsequent scientific investigations.

¹⁰³ The Trump administration (January 2017 – present) also plans to censor climate scientists (Glenza 2017; Nuccitelli 2017a) in addition to adopting a variety of other measures that will reverse such meagre gains for environmental protection as were achieved by the Obama Administration (Dotson 2017; Selin 2017). By 2030, Obama's Clean Power Plan would only have reduced CO₂ emissions by 32% below 2005 levels in the US power sector, a very low and 'unambitious' target given the severity of the problem (Böhm & Pearse 2015). Overall, Greenblatt and Wei (2016) calculate that even if all of Obama's policies were implemented they would not meet the US Paris Agreement INDC of reducing GHG emissions by 26 – 28% below 2005 emissions by 2025. On the other hand, his 2016 Presidential Memorandum banning oil and gas drilling in large areas of the Arctic and Atlantic oceans signifies important environmental gains although these, too, are at risk in a Trump presidency (Parenteau 2017).

effort (*ibid.*). In Australia, the conservative Coalition Howard Government (1996 – 2007) refused to sign the Kyoto Protocol, and Labor Party Rudd/Gillard Government (2007 – 2013) measures supporting climate science and renewable energy research and pursuing GHG reduction targets by implementing a carbon pricing mechanism were aggressively reversed by the conservative Abbot and Turnbull Governments (2013 – present). The Abbott Government (2013 – 2015) dismantled and defunded organisations conducting climate change research and repealed the carbon pricing legislation implemented by the Labor Government in 2012 (Beeson & McDonald 2013; Crowley 2017). The Turnbull Government (2015 – present) continues to defund climate research and to both defund renewable energy projects and use regulations to block their development (Bainbridge 2017; Hudson 2016a; Swann 2016); it simultaneously supports large-scale fossil fuel projects through its “aggressive promotion of coal” (Morgan 2017) and its policies that facilitate the expansion of natural gas and coal-seam gas industries (Baer 2016; Curran 2017; Jackson 2017).

The legality of the Bush Administration’s measures to restrict the dissemination of information about climate change demonstrates the way in which liberal democratic institutions provide tools that can be (and frequently are) used to prevent addressing serious issues that threaten vested interests. The Bush Administration’s use of legislation to restrict the dissemination of information about climate change also demonstrates the validity of ecosocialist arguments that addressing the threat posed by anthropogenic global warming calls for the radical reorganization of society. This argument is further strengthened when one considers that the US has not been alone in responding to scientific findings that threaten business interests by restricting funding for climate science on the one hand and the public’s right to information about the findings of publicly-funded science on the other: as discussed above, conservative Canadian and Australian governments have responded similarly (Thompson 2006). Government regulations obstructing effective action to mitigate climate change and promoting fossil fuel industries are complemented by a variety of other tactics that some officials, policymakers, media outlets and other representatives of powerful vested interests have long resorted to. These tactics

include denying the reality of global warming, downplaying the seriousness of the effects of GHG emissions or even claiming that these effects are beneficial, and casting doubt on whether global warming is anthropogenic – claiming, instead, that it is part of a ‘natural cycle’ (Beck 2012; Lewandowsky 2011; Levy & Egan 1998; Oreskes & Conway 2010; Peterson, Connolley & Fleck 2008). Despite these misrepresentations of the evidence, there has been a growing scientific consensus since at least the 1980s that anthropogenic global warming is real and that its dangerous effects are already playing out. There is also a widespread scientific consensus that it is necessary to decarbonise the global economy as soon as possible (Åhman, Nilsson & Johansson 2016) while planning adaptation strategies for dealing with the warming and the effects of climate change that are now inevitable. These concerns about global warming and climate change initially arose within the context of growing awareness and concerns about a wider environmental crisis that had prompted the convening of the 1972 United Nations Conference on the Human Environment in Stockholm, the first of many ‘megasummits’ emphasising the need for ‘sustainable development’ (Biermann 2013). Ineffective international institutional responses to this wider environmental degradation are summarised below and again confirm ecosocialist arguments that global capitalism and its political institutions cannot be reformed to deal with the environmental and climate change crises that the capitalist mode and relations of production engender in their normal operations.

International institutional responses to environmental degradation: 1972 - present

According to several analysts, the publication of Rachel Carson’s *Silent Spring* in 1962 found a receptive audience among the public both in the US and worldwide and signalled the beginning of the modern environmental movement in the Global North (Sale 1993; Hutton & Connors 1999).¹⁰⁴ Widespread public concern about environmental degradation was prompted by a variety of issues, including fears of nuclear fallout from the atmospheric testing of nuclear bombs, a growing awareness

¹⁰⁴ This perception of the origins of the modern environmental movement is, however, inaccurate and simplistic, as discussed in Chapter 6.

of the dangers to human health and security posed by the pollution caused by the post-war economic boom, several highly-publicised environmental disasters, and early predictions of an approaching 'doomsday' scenario as a result of ecological collapse if industrialisation continued on a trajectory of infinite growth on a finite planet (Sale 1993). Sale (1993, pp. 39 - 40) identifies the formation of the Club of Rome in 1968 as "the first significant international recognition of the environmental crisis." The Club of Rome commissioned a Massachusetts Institute of Technology (MIT) team to conduct a research project that used a complex computer model to analyse global economic and environmental trends. Publishing their findings 'to considerable fanfare' in the report *Limits to Growth* in March 1972, the MIT researchers predicted catastrophe sometime during the twenty-first century:

If the present growth trends in world population, industrialization, pollution, food production, and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next 100 years. The most probable result will be a rather sudden and uncontrolled decline in both population and industrial capacity.

(Meadows, Randers & Meadows 2004, front pages)

While the Club of Rome was a private coalition of prominent scientists, politicians, technocrats and businessmen from twenty-five countries, the first official international response to environment concerns by the UN was the Biosphere Conference in Paris in 1968, where it was agreed to hold a UN Conference on the Human Environment (UNCHE) in 1972 (Sale 1993). One important outcome of this meeting, which came to be known as the 'Stockholm Conference', was the decision to establish the United Nations Environment Program (UNEP), albeit as a body coordinating its work through other agencies (rather than as a specialized agency). The UNEP's 'paltry budget' and subordinate role within the UN system meant that it had no enforcement powers with which to act on its mandate of coordinating "all matters on global ecosystems" (*ibid.* pp. 42 – 43). In addition to establishing the UNEP, another UNCHE outcome was the adoption of the *Stockholm Declaration*, containing twenty-six principles concerning the environment and development (UNGA 1972). Despite this declaration, and the *Stockholm Action Plan* with its 109 recommendations, the global spread of capitalist relations of production (generally

referred to as 'development' in official documents and popular accounts) continued to damage the environment and in 1983 the Secretary General of the UN requested Gro Brundtland, the former Prime Minister of Norway, to establish and chair an independent commission on environmentally sustainable development (WCED 1987).¹⁰⁵ The official title of this organisation was the World Commission on Environment and Development (WCED), but it is also widely referred to as the 'Brundtland Commission'. *Our Common Future* (1987), the outcome of the Brundtland Commission, is a key document often cited in the sustainability literature for its emphasis on inter-generational equity (the need to protect the environment that future generations will inherit) and the view that 'sustainable development' can be achieved through a balance between economic growth, environmental protection, and social equity – the three 'key pillars' of sustainable development (Brundtland 1987; WCED 1987).

These initial attempts to mobilise the 'global community' of the world's governments to take effective action on addressing the many issues of environmental degradation posed by the global expansion of the capitalist mode of production were followed by numerous other initiatives and conferences, including the 1992 United Nations Conference on Environment and Development (UNCED) convened in Rio de Janeiro, also known as the first 'Earth Summit' or the 'Rio Summit'.¹⁰⁶ The first Earth Summit was followed by another World Summit on Sustainable Development (also known as the 'Rio+10 Summit' or 'Earth Summit 2')

¹⁰⁵ Sale (1993) notes that despite the Stockholm Conference's 'notable achievements,' its marked limitations included 'pushing aside' the divergent interests of the advanced capitalist economies and the developmental aspirations of the less-industrialised economies. More generally, Sale (*ibid.*, pp. 41 – 42) argues that Stockholm Conference participants had a "single-minded focus on... earth entities as 'resources'" and were "...unwilling to take up the broader issue posed by industrial societies anywhere or to consider whether industrial systems by their very nature might be incompatible with stable and renewable ecosystems; instead, the entire thrust of the meeting was in terms of 'stewardship' of the earth, managing it successfully so as to ensure future economic growth both North and South with minimal environmental costs".

¹⁰⁶ Refer to Strong (1972) and Bolin (1974) for early accounts of the developing understanding of the way in which different natural systems are connected and of the need to take measures to address the damage caused by polluting industrial activities. Brockris' (1974) article represents an early example of discussions about non-fossil fuel-based technologies that could have been developed and adopted from the mid-1970s, as well as obstacles to the development and adoption of such technologies.

convened in Johannesburg in 2002, and then the 2012 United Nations Conference on Sustainable Development (UNCSD) held in Rio de Janeiro and also known as ‘Rio 2012’, ‘Rio+ 20’ and ‘Earth Summit 2012’ (Biermann 2013).¹⁰⁷ Since the Brundtland Commission’s findings, climate change has also featured explicitly as an issue to be addressed at these environmental summits (Boehmer-Christiansen 1994b), but while there have been many ‘statements of principles’ and ‘action plans’, the goal of ‘sustainable development’ remains elusive (Hadden & Seybert 2016) and the global spread and intensification of capitalist relations of production continues to degrade the environment and compromise the integrity of the biosphere at an ever-increasing rate nearly five decades after the emergence of these issues.¹⁰⁸ US President GWH Bush’s statement that “the American way of life is not negotiable” (cited in Harris 2009, p. 968) at the first Earth Summit clarified that US policy on international environmental protection measures took a backseat to US economic interests, and successive US administrations (whether Republican or Democrat) continue to protect the short-term interests of US capital (Bang, Hovi & Sprinz 2012; Falkner 2005).

The 2012 Earth Summit outcome was particularly disappointing to the scientists who had participated in the preparatory 2012 *Planet Under Pressure: New Knowledge Towards Solutions* conference held in London. This London conference was organised by the International Council for Science (ICSU) with the aim of providing

¹⁰⁷ Some of the formal but non-binding outcomes from the Rio Summits are: *Agenda 21* (UNGA 1992), the *Johannesburg Declaration on Sustainable Development* (UNGA 2002), and *The Future We Want* (UNGA 2012).

¹⁰⁸ While the wording only implicitly refers to anthropogenic global warming, Principle 6 of the 1972 ‘Stockholm Declaration’ may perhaps be interpreted as constituting the first UN reference to this issue: “The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the peoples of all countries against pollution should be supported” (UNGA 1972). Several other principles in this document are also relevant, albeit less directly, to important issues related to anthropogenic global warming – for example, Principle 1 refers to the “responsibility to protect and improve the environment for present and future generations” and Principle 21 refers to the responsibility of states to ensure that their activities “do not cause damage to the environment... of areas beyond the limits of national jurisdiction” (Principle 21).

scientific leadership for the Rio+20 Summit (Biermann 2013).¹⁰⁹ The scientists' urgent statements about the severity of the environmental emergency humanity now faces are published in the outcome of the London conference, the *State of the Planet Declaration* (DIVERSITAS & ICSU 2012). Due to resistance from a number of countries, but particularly from the United States (Biermann 2013), like all previous scientists' warnings these, too, failed to initiate the structural changes required within the UN system to strengthen the 'environmental pillar' of sustainability, or to produce a binding agreement that would lead to effective action that may avert planetary disaster as a result of global warming. Siding with some developing nations (a tactic often resorted to by US government representatives), the United States rejected the "notion of planetary boundaries" at the Rio+20 Conference, and thus also the related reform proposal that NGOs put forward to establish a 'United Nations High Commissioner for Future Generations' (Biermann 2013). Other reforms proposed to strengthen the UN's ability to protect the environment, such as the creation of a 'World Environmental Organisation' as a Specialised Agency to eliminate the inconsistencies between different environmental programmes and organisations working on specific issues often at odds with one another and the integration of UN environmental, economic, and social policies under a body such as a 'Sustainable Development Council', were also resisted by some governments, and were strongly resisted by US representatives (Biermann 2013; Georgeson 2014).¹¹⁰ This response is no different to the ineffectiveness of official responses to the climate change crisis: the restricted mandates, limited autonomy, and lack of enforcement powers of the formal international and intergovernmental institutions nominally established to address the issues of GHG emissions, global warming and climate change ensure that 'business as usual' — particularly a world economy

¹⁰⁹ The ICSU, an international non-governmental organisation previously named the International Council of Scientific Unions, was founded in 1931 with the stated purpose of promoting international cooperation for the advancement of science (ICSU n.d.).

¹¹⁰ Refer to Zelli (2011) for detailed discussion of how some policy proposals for addressing climate change (such as Reducing Emissions from Deforestation and Forest Degradation [REDD] and the expansion of biofuel production) are inconsistent with the regime to protect biodiversity (the Convention on Biological Diversity), while the hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) promoted as 'safe' substances in the Vienna Convention for the Protection of the Ozone Layer are greenhouse gases that need to be phased out under the climate regime.

based on the burning of fossil fuels — continues irrespective of the environmental and social costs of this trajectory.

Many analysts identify the United States as being at the forefront of efforts by various governments and groups representing vested interests to ensure that global institutions have no legislative or executive authority and power to take the measures required to mitigate climate change.¹¹¹ However, some of the ways in which the US has shaped the international institutions dealing with climate change are not widely discussed in contemporary accounts; this history is significant and can be reclaimed if one refers to work published in the 1990s, soon after these institutions had been created.¹¹² In particular, an awareness of the US role in establishing and shaping institutions such as the IPCC in very specific ways is important if one is to understand how it came to be that scientific advice plays such a subsidiary role in climate change policy-making (and how things could have been otherwise).

As discussed in more detail below, the IPCC's lack of effective agenda-setting power in the policy arena is due to a determined effort by the first Bush Administration to bypass the earlier independent, scientific Advisory Group on Greenhouse Gases (AGGG). This decision ensured that the IPCC, the primary officially recognised institution reporting on the current state of scientific knowledge about global warming and climate change, was established in a way that effectively 'quarantines' technical and scientific understandings of the physical science of climate change from the social effects of these changes and also from the field of policymaking. The IPCC's terms of reference explicitly forbid it to even make policy *recommendations*

¹¹¹ Many analysts use a Realist perspective to explain why this is the case, with the US using its power as the sole global hegemon (defined in realist terms) to obstruct action on climate change; most analysts also refer to domestic US politics (specifically the influence of the powerful fossil fuel industry and associated industry groups such as the automobile lobby) as well as to the peculiarity of domestic constitutional legal constraints on the power of US administrations to commit the US to legally binding international agreements (Agrawala & Andresen 1999; Bang, Hovi & Sprinz 2012; Depledge 2005; Falkner 2005; Givens 2014; Glicksman & Levy 2008; Gupta 2010; Kemp 2017b; Thompson 2006; Wirth 2016).

¹¹² Shardul Agrawala (1998a, 1998b, 1999) provides detailed accounts of the origins and early evolution of the Advisory Group on Greenhouse Gases (AGGG) and the IPCC, and I refer to these works extensively in relevant sections of this chapter.

(never mind formulate actual policies), and its work is further restricted by attempts by US-based conservative think tanks such as the Heritage Foundation and the Cato Institute to discredit both the scientists working on the assessment reports and the reports themselves (Armitage 2005; McGee & Steffek 2016). In addition, as is discussed in more detail later in this chapter, all successive US administrations, either acting unilaterally or with the support of a variety of allies that are selected opportunistically, have consistently worked to undermine the UNFCCC and its treaties and to shape them in ways that, while favouring US business interests in particular and global capital in general, simultaneously present obstacles to the adoption and implementation of effective and socially benign measures to mitigate and adapt to global warming and climate change.¹¹³ A review of the establishment and subsequent development of current international and intergovernmental climate change institutions and regimes thus demonstrates the politicisation of the issue of climate change as well as the influence that successive US administrations and other governments have had in shaping these institutions in a way that renders them relatively powerless to address the issues central to their operations. The analyses of the origins and development of the current climate change regime architecture provided in the rest of this chapter demonstrate the relevance of ecosocialist arguments that it is impossible to reform the current system in a way that effectively mitigates anthropogenic global warming and protects the biosphere's ability to support current life as it evolved throughout the Holocene.

¹¹³ US representatives at the UNFCCC's COPs have often allied themselves with other states whose 'national interests' align with the US (McGee & Steffek 2016) – Canada and Australia, with vast reserves of fossil fuels such as coal and tar sand oil, are notable examples of such states (Thompson 2006). The US has, however, also acted unilaterally to undermine international collaboration on mitigating climate change (Agrawala & Andresen 1999; Armitage 2005), as it did in 2001 when it refused to participate in COP-6 and COP-7 and sent a delegation of 'observers' instead, thereby forcing the adoption of the 'flexible mechanisms' it wanted implemented before it returned to the UNFCCC 'negotiation table' in 2002.

World order, material capabilities, institutions and competing ideas: The origins, establishment and evolution of international and intergovernmental institutions to address global warming

Concerns provoked by a growing awareness of the potential danger of accumulating GHGs in the atmosphere are reflected in numerous collaborations between scientists that began as early as 1967 with the establishment of the Global Atmospheric Research Program under the auspices of the World Meteorological Organisation (WMO) and the ICSU (Agrawala 1998a; ICSU 2015).¹¹⁴ These collaborations were initially mobilised through loose research networks and a number of conferences in the 1970s before the WMO, the United Nations Environment Program (UNEP) and the ICSU organised and convened the first World Climate Conference (WCC) in 1979 (Agrawala 1998a; Gupta 2010).¹¹⁵

While the first WCC did not call for any action from policymakers, it provided the groundwork for a series of international atmospheric science workshops in Villach (Austria) in the 1980s (Agrawala 1998a; Gupta 2010).¹¹⁶ In the third workshop (1985), widely known as the Villach Conference, the majority consensus amongst the participating scientists was that by the first half of the twenty-first century the Earth's mean global temperature would be greater than at any time in human history, and they recommended further research in order to clarify the nature of the threat (Zillman 2009). The Villach Conference findings were summarised in a report entitled *The Greenhouse Effect, Climatic Change and Ecosystems* (1986), which the ICSU (2015, p. 15) describes as "the first comprehensive international assessment of the environmental impact of atmospheric greenhouse gases." This report, published more than three decades ago, concluded that the accumulation of CO₂ in the

¹¹⁴ The WMO was formally established as a UN Specialized Agency in 1951, replacing the International Meteorological Organization that had been established in 1873 in large part to meet the needs of maritime shipping as a result of the expansion of international trade (Davies 1990).

¹¹⁵ A second WCC was convened in 1990, and the third was held in 2009 (Zillman 2009).

¹¹⁶ The international character of these meetings is evident from the fact that the scientists came from 29 different countries, although they attended as individual participants rather than as representatives of their countries of origin (Agrawala 1998a).

atmosphere is caused by 'human activities' and warned that a doubling of CO₂ would cause 'substantial warming', recommending international cooperation on 'a variety of specific policy actions' to address the issue (ICSU 2015). The Villach Conference also led to the WMO, the UNEP and the ICSU establishing the first body of international experts to guide climate policy, the AGGG. The AGGG's history and swift demise are discussed in some detail below as this case study illustrates the US government's activism, facilitated by its vast material capabilities and its leading position in maintaining the current neoliberalising capitalist world order, in blocking any measures to effectively address global warming from the very beginning of the development of a widespread awareness of this issue.¹¹⁷

The Advisory Group on Greenhouse Gases (AGGG)

It is significant that it was UNEP Director, Mostafa Tolba, who had played a central role in the development and adoption of the Vienna Convention for the Protection of the Ozone Layer, who first introduced the idea of establishing an advisory panel to guide climate policy (Agrawala 1999). Following Tolba's suggestion in his opening address at the 1985 Villach Conference, the WMO, UNEP and the ICSU established the AGGG for this purpose in July 1986 (Agrawala 1999). The AGGG's terms of reference ranged from monitoring climate related research undertaken by its sponsor organisations to advising governments on policies they could implement to reduce the rate of GHG concentrations or to adapt to its effects. The AGGG's seven members were all respected scientists who had other pressing commitments that took up much of their time, and this was one factor that negatively impacted on their ability to fulfil their broad and vaguely defined AGGG mandate (*ibid.*). Another factor constraining the AGGG's ability to perform its task was the inadequate funding allocated to its activities by its sponsor organisations. This situation led to the development of what Agrawala (1999) refers to as a '*de jure* and *de facto* AGGG'. The *de facto* AGGG operated between 1987 and 1990 and was led by one of the

¹¹⁷ According to Agrawala (1999), policymakers soon sidelined the AGGG by refusing to fund it and generally ignoring it, and creating an alternative institution instead: the IPCC. Boehmer-Christiansen's (1994b, p. 189) account of the AGGG's demise differs, claiming that the this body "was disbanded under pressure from the US State Department and presumably with the support of WMO and oil exporting countries."

seven original AGGG members, Gordon Goodman, who was also the head of the Stockholm Environment Institute (SEI).

Goodman “attracted a small subset of experts holding similar beliefs that scientists needed to play a more policy-proactive role to initiate international responses on climate change” (Agrawala 1999, p. 161). It was the *de facto* AGGG that convened the workshops at Villach in September-October 1987 and at Bellagio in November 1987, with the latter workshop proposing that the AGGG “design policies aimed at limiting increases in temperature and sea level to within ‘tolerable rates’” – a proposal that constitutes what Agrawala (1999, p. 162) identifies as “the first explicit *policy* debate on climate change” [emphasis in original]. Several *de facto* AGGG actors were subsequently recruited into the steering committee organising the Toronto Conference on the Changing Atmosphere that was held in June 1988 (*ibid.*). The outcome of this conference was the *Toronto Declaration*, which was unprecedented and “made it the most significant policy initiative of its time on climate change”: it called for a 20% reduction in OECD GHG emissions from 1988 levels by 2005 (Agrawala 1999). The rapid succession of policy messages on action to address climate change that emerged after the Bellagio workshop, the Brundtland Report, and the Toronto Conference drew international attention to the issue of climate change, and it was at about this time (in 1988) that the US government “began to flex its muscle on the international arena, although efforts in that direction had begun at least two years earlier” (Agrawala 1999, p. 164).

Agrawala (1999) notes the complex and contradictory role of the US in the context of growing awareness of the climate change issue: while US scientists and scientific institutions and agencies produced most of the scientific knowledge about anthropogenic global warming, the political and economic interests threatened by taking the action necessary to stop the GHG emissions causing it were ‘huge’ for the US (see also Agrawala & Andresen 1999, Depledge 2005, Falkner 2005, and Hecht & Tirpak 1995). At that time the US was the largest GHG emitter, and the powerful fossil fuel and car manufacturing lobbies had the active support of a Republican White House to prevent the adoption of binding agreements limiting fossil fuel use

(Agrawala 1999; see also McAdam 2017).¹¹⁸ In addition to government and industry resistance to taking actions that could ‘damage’ the US economy, government agencies had different views on the severity of global warming and on whether or not the issue warranted a policy response (Hecht & Tirpak 1995). This was evident already in 1986, when the US National Climate Program Policy Board was convened to discuss a letter addressed to Secretary of State George Schultz by UNEP Director Mostafa Tolba, who had requested help in initiating the process for a climate convention. The government agency representatives participating in these discussions agreed to the US recommending the establishment of an “‘*intergovernmental mechanism*’ ... to conduct scientific assessment of climate change” (Agrawala 1999, emphasis in original). Agrawala (1999, p. 164) notes that all parties at this meeting shared “a common concern with respect to the international policy initiative that had begun with the 1985 Villach workshop.” While those who thought that climate change was a serious issue were opposed to “a small set of ‘free wheeling experts’” (in other words, scientists) formulating international policy, advocates of delaying the adoption of any measures to restrict GHG emissions were concerned that pressure from expert groups like the AGGG might force the US government into ‘premature policy commitments’ (Agrawala 1999, pp. 164- 165; see also Boehmer-Christiansen 1994b and Hecht & Tirpak 1995).¹¹⁹ Agrawala (1998a) thus makes the important point that analysts who present *sequential* accounts of the

¹¹⁸ While China overtook the US as the largest CO₂ emitter in 2005 (Gregg, Andres & Marland 2008; Olivier *et al.* 2016, p. 43), the role of ‘pollution havens’ (whereby emissions-intensive production processes are ‘offshored’ from developed to developing countries such as China) substantially contributes to these emissions; accounting methods that incorporate the consumption of CO₂ embedded in the measurement of Chinese exports reveal that the GHG emissions associated with the production of these goods have effectively been ‘exported’ to China by US and other multinational corporations based in the advanced capitalist economies (Aichele & Felbermayr 2015; Malik & Lan 2016). In addition, when measured on a per capita basis, Chinese GHG emissions are much lower than those of many other countries, with Canadian, Australian and US per capita emissions from fossil fuel use and cement production being the highest and China’s per capita emissions in these sectors ranking fourteenth on the list (Olivier *et al.* 2016, p. 40; refer also to Falkner 2005 p. 591 for more details about per capita US consumption patterns).

¹¹⁹ Boehmer-Christiansen (1994b, p. 187) explains that “In the USA the idea of a climate treaty based on scientific advice was soon hotly debated. After all, the AGGG proposals and claims had come from institutions which, to the US government, represented a lobby it deeply distrusted.”

IPCC's establishment as a result of the findings and discussions at the 1987 AGGG workshops and the 1988 Toronto Conference are mistaken, and that the IPCC was established as an *alternative* to the AGGG and to its prior activities and recommendations:

... the process to set up the IPCC was in motion as early as 1986, and the WMO Executive Council resolution to this effect was passed in June 1987, a few months *before* the Villach/Bellagio workshops, and a full year *before* the Toronto Conference and the hot summer of 1988. These events clearly had no role in the decision to set up the IPCC, though they might have influenced the level of interest the institution subsequently generated. Instead, the trigger for the IPCC was the activism by Mostafa Tolba, the dissatisfaction in the US about the AGGG, and sharply different views on climate change amongst various US government agencies and the White House administration. The subsequent shape the IPCC took reflected a common denominator agreement between various US agencies. Reportedly there were also strategic attempts both by WMO and the US to prevent Mostafa Tolba from 'capturing' climate, the way he had, ozone.

(Agrawala 1998a, p. 612, emphasis in original)

US negotiations in the Montreal Protocol on Substances that Deplete the Ozone Layer had provoked the ire of the US Departments of Energy, Commerce and the Interior, the Council of Economic Advisers, and the Office of Management and Budget, with advisers in these departments claiming that the Environmental Protection Authority (EPA) and the State Department had acted 'too aggressively' in the ozone treaty negotiations, and without consulting other agencies (Agrawala & Andresen 1999, pp. 471 – 472).¹²⁰ To curb the power of the EPA and the State Department, the White House Domestic Policy Council was given direct control over all international environmental negotiations in 1987 (*ibid.*). White House advisers representing economic and business interests thus 'outmuscled' the EPA and the

¹²⁰ Refer to Ruckelshaus (1985) for an interesting account of how the EPA was similarly established in a way that limited its power to fulfill its mandate effectively. As Ruckelshaus (1985, pp. 460 - 461) explains, US environmental laws "...greatly restrict the ability of the administrator, the untrusted administrator of the Environmental Protection Agency, to apply laws flexibly to the widely varying problems existing in a complicated nation such as ours.... The laws all follow the same pattern: they set standards.... The statutes set deadlines, usually unreasonable, in which those standards or goals are to be achieved. Then, when the deadlines are missed or the standards are not achieved, they provide citizens with the right to sue.... All of this has the effect of creating an agency which cannot do precisely what the Congress has told it to do. In many instances it is physically impossible."

State Department when it came to the George HW Bush Administration deciding what to do about global warming in 1989, with the Council of Economic Advisers projecting “significant costs of various policy measures to mitigate climate change” and other senior advisers expressing concerns “about potential US financial obligations toward developing countries under a climate convention” (Agrawala & Andresen 1999, p. 472). While these domestic pressures explain the first Bush Administration’s decision to establish an *intergovernmental* mechanism rather than a group of scientific experts to investigate and address the issue of climate change, this does not explain why other actors acquiesced in this proposal.

Agrawala (1998a) identifies several reasons that led to WMO and UNEP member governments supporting the US in establishing the IPCC: ‘US clout’ in the decision-making of international institutions such as the WMO and UNEP; the widespread economic implications of the policies needed to address climate change (see also Boehmer-Christiansen 1994b); and the fact that the issue of climate change was already politicized:

... the international environmental arena was already politicized *because climate change came in the wake of ozone*. Peter Usher, Tolba’s key advisor during the ozone negotiations, admits that the ad-hoc, low key, science-driven (if politically undemocratic) nature of the early ozone assessments which led to the Vienna Convention could not be duplicated in climate change. This is because while ‘politics caught up with ozone, climate change was born in politics’ (Usher, 1997).

(Agrawala 1998a, p. 614; emphasis in original)

To summarise, the IPCC acquired its present form as the result of what Agrawala describes as “a back-room effort of design, negotiation and compromise” between US agencies in a process much of which ‘is still shrouded in mystery’; it “was the product of an intensely *political* process within the US and the UN system” (Agrawala 1998, p. 615, p. 617, emphasis in original). US determination to play a leading role in shaping the IPCC is also evident in the fact that the US government sent 24 delegates to its first meeting in November 1988, greatly outnumbering the number of delegates from other countries - for example, Germany only sent two delegates (Boehmer-Christiansen, 1994b). The US government and its allies thus ensured that

the IPCC was established in a way that suits the economic interests of powerful corporate interests, as discussed in more detail below.

The Intergovernmental Panel on Climate Change (IPCC)

The IPCC's evolution after 1988 increasingly marginalised the roles of the WMO and UNEP while US influence increased considerably through its scientists and bureaucrats as well as through new actors such as the Global Climate Coalition and the Climate Council, which represented US fossil fuel interests and also aligned with the interests of other oil-producing economies (Agrawala 1998b; see also Hoppe, Wesselink & Cairns 2013). The IPCC's role in providing scientific data informing international climate change treaties led to attempts by these actors to discredit the IPCC and its reports in the lead-up to the 1992 Rio Conference, where the UNFCCC was due to be adopted (Agrawala 1998b). These events resulted in the IPCC overhauling its processes in an attempt to protect its legitimacy.¹²¹ The first round of changes gave representatives of governments and international institutions such as the World Bank and the OECD a greater role in selecting report contributors and reviewers (Agrawala 1998b). The 1993 changes also opened up the review of IPCC assessments to participating countries' "national experts and other interested parties" and stipulated that government representatives had to approve the newly-introduced 'Summary for Policymakers' (SPM) by agreeing on its contents line-by-line (Agrawala 1998b; IAC 2010).¹²²

¹²¹ Skodvin (2000) identifies two major revisions of the IPCC's rules of procedure between its inception in 1988 and the year 2000, one in 1993 and the other in 1999. Skodvin's critique of these revisions focuses on how they led to further bureaucratisation within the IPCC and how time-consuming they were to implement. The second revision of the IPCC's rules of procedure in 1999 established a system of review editors whose responsibility it was to evaluate and incorporate comments from reviewers into the reports and new procedures for the endorsement of the Synthesis Report, requiring this document to be 'adopted' (rather than 'approved') subject to a 'section-by-section' approval (Skodvin 2000)

¹²² Contrasting this approach of trying 'to buy global credibility *amongst governments*' with 'the distinctly activist stance' taken by some of the IPCC's predecessors in order to 'effect prompt policy outcomes,' Agrawala (1998b, p. 629, emphasis in original) reaches the surprising conclusion that "Neither approach is implicitly superior" as both catalyzed policymakers. With the benefit of hindsight, however, it is clear that the IPCC approach has not been effective, having had very little impact on reducing GHG emissions. It is therefore reasonable to suggest that stronger policy advocacy by

Now an established intergovernmental mechanism that has been operational for nearly two decades, the IPCC describes its main task as being to provide “assessment reports on the state of knowledge on climate change” at regular intervals, and its restricted mandate is reflected in the statement that one of its most important principles is to produce reports that are ‘policy relevant’ but not ‘policy prescriptive’ (IPCC 2010).¹²³ Rather than conducting new research, IPCC reports assess the most recently published and peer-reviewed scientific literature on climate change and related issues, but in the absence of such literature (which often is the case on issues such as adaptation), they also include information obtained from ‘grey literature’, which refers to government reports and work published by international organisations (IPCC 2010). The volunteer scientists and experts conducting the assessments and writing the reports are organised into three Working Groups (WGs): WGI assesses and reports on the physical science basis of climate change, “including attribution of past change and projections of future change”; WGII builds on the information assessed by WGI and focuses on the expected impacts of global warming on socioeconomic and natural systems; and WGIII reports on possible policy responses to the effects identified by WGII (IAC 2010, p. 6; Luton 2015). This separation between the natural and social sciences is one way in which the IPCC can be controlled by governments and various other stakeholders: the physical science that provides proof that global warming is accelerating and that action to mitigate it is urgently required is the domain of WGI, while the social science discipline of economics dominates both the possible ‘socioeconomic’ impacts and the ‘policy relevant’ information presented in WGII and WGIII assessment reports (Corbera *et al.* 2015; Hulme & Mahoney 2010).¹²⁴

scientists, if it could have been achieved, may have at least partially helped mitigate some of the additional anthropogenic global warming locked in by the increasing GHG emissions in the three decades since scientists became aware of the severity of this issue.

¹²³ Refer to Luton (2015) for a comprehensive argument against this claim of ‘policy neutrality’ within the IPCC.

¹²⁴ Boehmer-Christiansen (1994a, p. 10) draws attention to the significance of the label “‘socio-economic’ system” as “it indicated that this group [WGII] too was not interested in society but in that vague and undefined apolitical entity called a socio-economic ‘system’.” In their discussion of the practical and political decisions involved when the IPCC was being established, Hecht & Tirpak (1995, p. 385) identify WGIII’s work as ‘the

Aligned with this division of labour between the natural and the social sciences, the IPCC's assessment results are published in three WG reports that include "chapters on specific topics; a Technical Summary of the chapter contents; and a Summary for Policymakers, which highlights the key findings of the assessment (IAC 2010, p. 8).¹²⁵ As mentioned previously, the SPMs are subject to line-by-line approval by government representatives.¹²⁶ This is a crucial mechanism that government representatives use to control the dissemination of information to the media (and through them, to the public) as these summaries are more likely to be read given the length and complexity of IPCC reports (Schrope 2001; Hajer 2012).¹²⁷ But government control of the IPCC's work is far more extensive even than this, as evidenced by an examination of Figure 8 below, which summarises IPCC processes and procedures and shows how government representatives exert an influence at almost every stage of the IPCC process, including setting its mandate, establishing the scope of its investigations, electing an IPCC Bureau and Chair for the duration of the assessment, and nominating authors and review editors. As Ravindranath (2010, p. 27), who participated in producing eight IPCC reports, explains: "The most powerful body of the IPCC that is responsible for making all the crucial decisions, starting from the contents and procedures to the final approval of the reports, is the 'IPCC panel' that consists of representatives of all the governments under the UN....

most contentious' as it controls which 'policy relevant' information is selected for inclusion. They also draw attention to how competing views within and between US scientific and other state agencies about which WG the US should chair in the first IPCC meeting were resolved in favour of its chairing WGIII.

¹²⁵ The IPCC has published five major assessment reports to date: the First Assessment Report (FAR) in 1990, while policymakers were negotiating the UNFCCC; the Second Assessment Report (SAR) in 1995, which was used to inform the Kyoto Protocol negotiations; the Third Assessment Report (TAR) in 2001; the Fourth Assessment Report (AR4) in 2007; and the Fifth Assessment Report (AR5) in 2013/2014 (IPCC n.d.). The IPCC plans to complete the Sixth Assessment Report (AR6) in 2021/2022 (IPCC website).

¹²⁶ There are three levels of endorsement of IPCC reports, the strongest of which is 'approval' and involves 'detailed line by line discussion and agreement' by government representatives while 'adoption', which is used for the Synthesis Report is subject to 'section by section' agreement. 'Acceptance' is the weakest form of endorsement and signifies that the material "presents a comprehensive, objective and balanced view of the subject matter" (IPCC, n.d.).

¹²⁷ According the Hajer (2012, p. 459), "IPCC reports are 3000-plus pages of summaries of the state of knowledge on selected topics."

So [the] IPCC is not an organization with its own agenda to promote or make its own rules, it is continuously controlled and supervised by this panel.”

Figure 8: IPCC Processes and Procedures

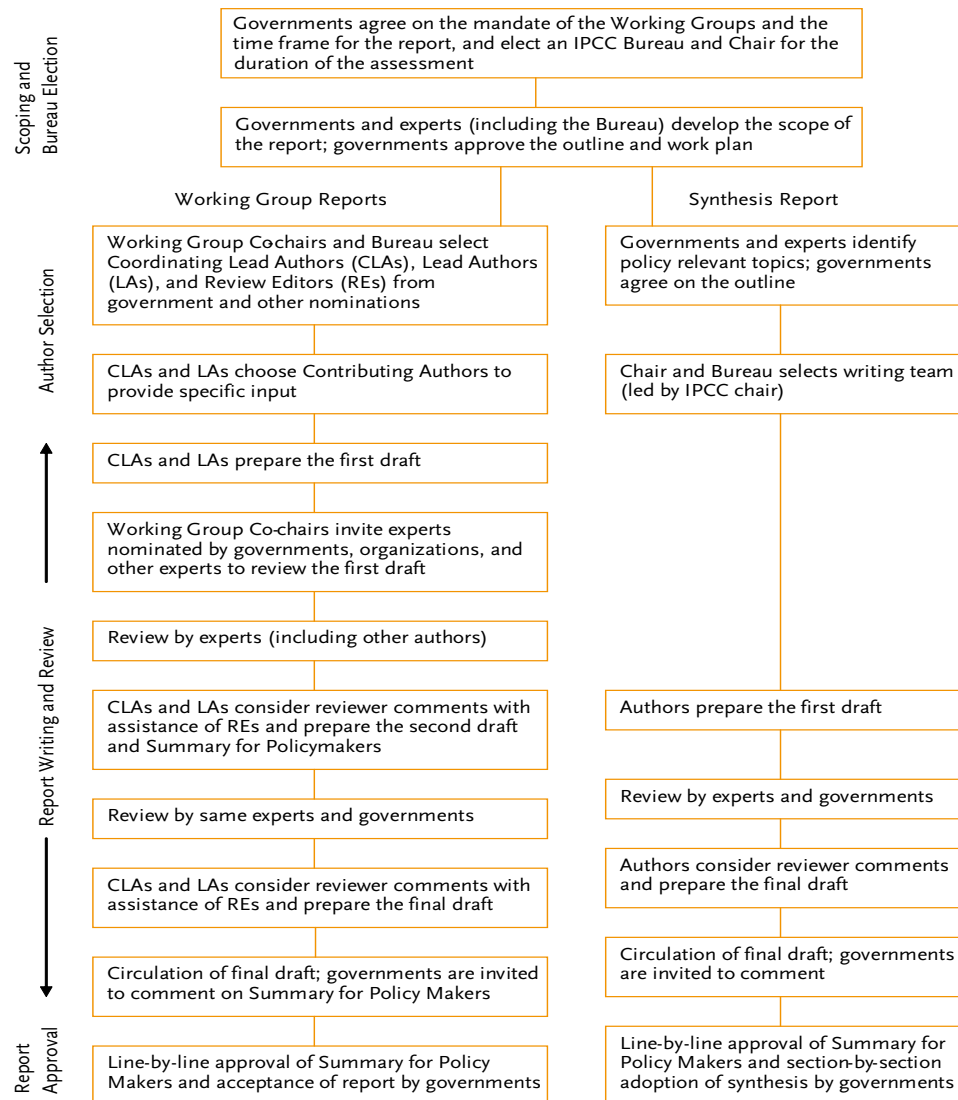


Figure 1.2 Process for preparing an IPCC Assessment Report. The initial steps (scoping and Bureau election) take place over a few years and several meetings. In this diagram, ‘governments’ are representatives of ministries or federal agencies and ‘experts’ are generally scientists from academia, government agencies, the private sector, and nongovernmental organizations. In general, the IPCC Secretariat facilitates the work of the Panel and supports scoping, Bureau election, government nominations, and report approval. The Technical Support Units assist the Working Group Co-chairs and Synthesis Report writing team and support author selection and report writing and review.

Source: IAC (2010, p. 10)

Despite its limited mandate and all the other restrictions placed on IPCC authors, the research results on anthropogenic GHG emissions causing global warming, climate change, and ocean acidification cannot be denied and are published in the WGI reports. The tactic of designing the IPCC so that it has no role in recommending policies has nevertheless succeeded in delaying the adoption of the effective policies required to mitigate global warming. Given the concern raised within civil society by the irrefutable scientific evidence of anthropogenic global warming that is published in IPCC reports, however, US fossil fuel interests and their domestic and international allies have had to resort to other tactics to block action on climate change.¹²⁸ These tactics include sustained and sometimes even psychologically damaging attempts to discredit IPCC science and scientists.

Constructing competing ideas: Climate change denialist attacks on IPCC climate science and climate scientists

The tactic of discrediting IPCC reports was already evident with the GHW Bush Administration's rejection of the First Assessment Report in 1990, as well as in the fossil-fuel funded Global Climate Coalition's (GCC) extensive lobbying against climate change legislation and its "large-scale advertising blitz [which was] meant to assuage any trepidation the [US] public might have had about the climate change issue" in the late 1990s (Armitage 2005, p. 422). There are many instances of manufactured 'climate change skepticism' or, as the authors of the open letter 'Deniers are not Skeptics' (CSI 2015) more accurately describe it, 'climate change denialism'; however, three 'controversies' reported on extensively in the media and debated on social media are particularly noteworthy. These manufactured controversies have succeeded both in damaging the reputation of the IPCC science and scientists and in delaying taking the action required to mitigate additional global warming (Biddle & Leuschner 2015; Brulle 2014; Leuschner 2016; McAdam 2017; Ravindranath 2010) in an attempt to try to secure what Rockström *et al.* (2009) refer to as a 'safe operating space' for humanity.

¹²⁸ While there are politicians, policymakers and representatives of business who also share these civil society concerns about the effects of anthropogenic global warming they have, to date, been unable to counter powerful vested interests whose business models would be challenged by the required changes to the working of the global economy.

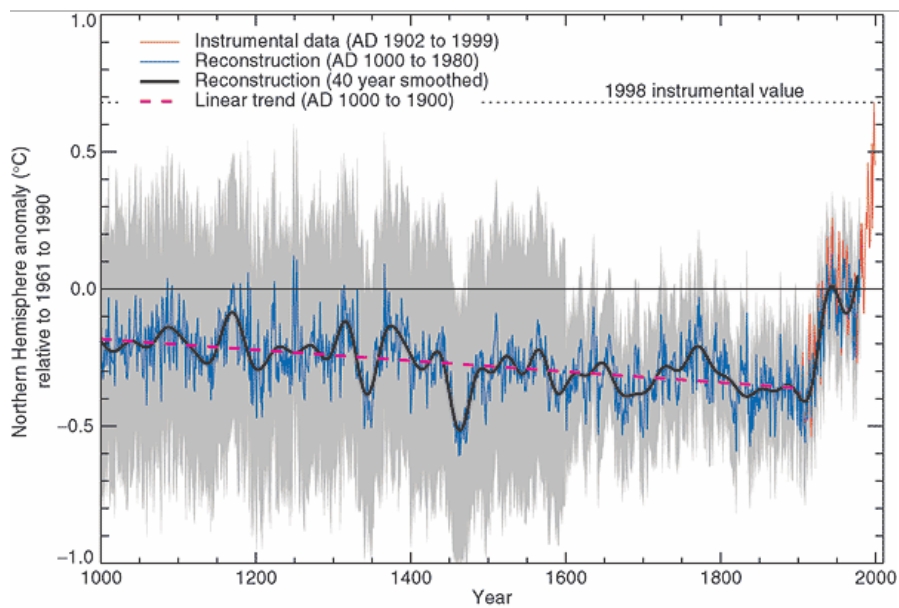
Since one of the central functions of IPCC reports is to inform UNFCCC negotiations (Adler & Hadorn 2014), it is not surprising that these three controversies occurred just before important UNFCCC milestone events. The first controversy occurred in the lead-up to the ratification of the Kyoto Protocol and involved the ‘hockey stick’ graph published in the 2001 Third Assessment Report (TAR); the ‘climategate’ controversy, involving ‘leaked’ private emails between scientists whose work had been published in IPCC reports, coincided with the opening of the COP-15 climate summit in Copenhagen (where there were high expectations that the Kyoto Protocol would be extended and strengthened, as discussed in more detail later in this chapter); and the public debates that greatly exaggerated the severity of a few errors in the regional chapters of the AR4 report occurred soon after the controversial and disappointing outcome of COP-15. In effect, because IPCC reports threaten powerful vested interests, they (as well as the climate science they report on, and the climate scientists who work on them) are subject to attacks by climate change deniers who are ideologically opposed to regulating GHG emissions. This is reflected in the fact that subsequent inquiries into these controversies have vindicated both the science and the conduct of the scientists who were attacked, as briefly discussed below.

The ‘hockey-stick’ graph controversy in the context of the Kyoto Protocol

Climate scientist Jerry Mahlman coined the term ‘hockey-stick graph’ (Hamblyn 2009) to describe the shape of a curve depicting changes in the Earth’s temperature over several centuries (refer to Figure 9 below: the ‘hockey-stick’ shape is evident on the right-hand side of the curve). Since there are no recorded temperatures extending back for a thousand years, climate scientists Michael Mann, Raymond Bradley and Malcolm Hughes used a standard scientific procedure – temperature proxies obtained primarily from tree ring data - to estimate the missing data in the northern hemisphere temperature records and published their findings in *Nature* in 1998 (this work is commonly referred to as MBH98) and in *Geophysical Research Letters* in 1999 (MBH99) (Connolly & Connolly 2014).

Figure 9: The hockey stick graph

Figure 1. The hockey stick chart



Source: *Intergovernmental Panel on Climate Change (2001), vol.II, Summary for Policy Makers.*

Source: Llewellyn (2007, p. 6)

After its publication in the TAR WGI SPM, the MBH1999 graph “featured prominently in both scientific reports and popular public presentations, and generated considerable scientific and public concern over atmospheric CO₂ concentrations” (Connolly & Connolly 2014, p. 2). The graph’s clear representation of the late twentieth-century’s unprecedented increasing rate of global warming made it (and the scientists who developed it) the target of sustained attacks by climate change deniers (Biddle & Leuschner 2015; Hicks 2017). Prominent critics of the graph included Stephen McIntyre (who spent his career in the mining industry and is not a climate scientist), Ross McKittrick (an economist), and conservative US politicians such as Senator James Inhofe and Congressman Joe Barton (Biddle & Leuschner 2015; Hicks 2017). Although some technical flaws have been found in the ‘hockey stick study,’ many subsequent investigations by individual researchers as well as by national and international scientific institutions confirm the hockey-stick graph’s main message: the overall trend of a rapid increase in the rate of global warming in the latter half of the twentieth century. These investigations also clear the scientists

involved of any wrongdoing (Biddle & Leuschner 2015; Connolly & Connolly 2014; Hicks 2017; Llewellyn 2007).¹²⁹ As Hicks (2017) points out, technical disagreements such as this one about the ‘science’ of global warming are proxies that conceal much deeper political and economic ideological disputes (see also Beck 2012 and Lewandowsky, Cook & Lloyd 2016). The same can be said regarding the so-called ‘climategate scandal’ and the media publicity surrounding errors in the IPCC’s AR4.

COP-15, ‘climategate’ and AR4 errors

The timing of the leak of emails hacked from the University of East Anglia’s Climate Research Unit, which occurred a few weeks prior to COP-15 in Copenhagen, makes it reasonable to suspect that this leak may have been politically motivated (Nerlich 2010; Skrydstrup 2013). A political agenda having potentially informed the leak is also perhaps evident in how, on BBC News, the lead climate negotiator of Saudi Arabia stated an expectation that this incident would “derail the objective of the [COP-15] summit to reach a binding agreement on greenhouse gas emissions” (Skrydstrup 2013).¹³⁰ Widely-publicised allegations that the contents of some of the leaked private emails between the scientists revealed that data had been manipulated to overstate the case of global warming and that scientific dissenting views on anthropogenic global warming had been suppressed were refuted by several official investigations in the period that followed, vindicating both the scientists and the science (Leuschner 2016; Skrydstrup 2013). The damage to climate science in public perceptions had, however, already been achieved with these allegations, and it was compounded with the revelation of some AR4 errors that followed ‘on the heels’ of this controversy (IAC 2010, p. 2).

¹²⁹ Refer to Connolly and Connolly (2014) for a detailed discussion of the technical, scientific controversies over the use of proxy data in the MBH studies, and to Hicks (2017) for an account of the importance of ‘inductive risk’ and of the need to balance ‘false negatives’ and ‘false positives’ in scientific investigations of anthropogenic global warming.

¹³⁰ While Saudi Arabia is frequently (and justifiably) criticized for its obstructionist role in the climate change negotiations, these tactics are best understood in the broader context of its ruling class’s alliances “to powerful oil and coal lobbies within industrialized countries, primarily the US, and also Australia” (Depledge 2008, p. 17).

One of the AR4 (WGII) errors was traced back to information from a ‘grey literature’ source, A World Wildlife Fund (WWF) report that erroneously claimed that Himalayan glaciers were likely to disappear by 2035 (IAC 2010).¹³¹ What is most controversial about this error is that the statement was questioned in peer reviewers’ comments but Review Editors failed to address the issue (IAC 2010). As the InterAgency Council (IAC) charged with reviewing the IPCC subsequent to these controversies points out, “This oversight is perhaps understandable given the fact that there were a total of 37,078 review comments to deal with in the two rounds of peer review” (IAC 2010, p. 20). Another perspective on the question of the AR4 errors is suggested by Hajer (2012, p. 460), who argues that:

The very notion of ‘errors’ was, of course, not innocent in itself. That there would be some mistakes in a three volume, 3000-page-long, assessment report is not in itself necessarily a reason to problematize the quality of the science. But there was also the question of what the IPCC assessment was for. Implicit in the media outrage was the accusation that climate scientists were ‘stealth issue advocates’ (Piehlke 2007): scientists working for a political cause but using science as a ‘fig leaf’.

To restore the integrity of the IPCC’s work, the IAC was charged with conducting an independent international review of IPCC policies and procedures (Beck 2012), making recommendations that further entrench external controls on how it functions. Importantly, these recommendations include “guidelines on who can speak on behalf of the IPCC and... how the organization can most appropriately be represented” (IAC 2010, p. 62), which constitutes another mechanism for controlling the dissemination of scientific information to the public.¹³² The attacks on the IPCC’s alleged ‘left-wing activism’ from the right of the political spectrum are compounded by politically liberal critiques arguing that its work is compromised in various ways, as discussed in more detail below.

¹³¹ That the incorporation of ‘grey literature’ into IPCC reports presented dangers that such errors would occur and could be used to undermine the IPCC’s legitimacy was both predictable and foreseen (for example, refer to Skodvin 2000)

¹³² Refer to the IAC (2010) report, *Climate change assessments: Review of the processes and procedures of the IPCC*, which is available online, for details of its recommendations, which constitute an even tighter control on IPCC operations.

Competing ideas: Liberal critiques of IPCC processes and policies

Early liberal critiques of IPCC processes and outputs included: the predominance of the physical sciences (Luton 2015) and of scientists and other experts from the Global North (Sagar & Kandlikar 1997; Hulme & Mahoney 2010; Siebenhüner 2003); “an unnecessary amplification of essentially minority opinions” used by US industry lobby groups to influence IPCC report content (Agrawala 1998b); and the way in which acting on review comments is left to the discretion of the writing teams, who “could get away with ignoring some or a majority of all critical review comments” (Agrawala 1998b).¹³³ Additional critiques include: biased reports as a result of authors’ own environmental views or, in the case of SPMs, because of government representatives’ input (Schrope 2001); the subsidiary role accorded to knowledge from social science discipline areas other than economics in WGII and WGIII (Corbera *et al.* 2015; Hulme & Mahoney 2010; Luton 2015)¹³⁴; the tendency of IPCC reports to understate the urgency of the situation by limiting the timespan of research to the end of 2100, and by adopting conservative estimates of the changes and the risks these pose (Leuschner 2016; Risbey 2008); the treatment of uncertainty, both in general and across the WGs (Adler & Hadorn 2014; IAC Council 2010); the positivist and global framings of climate change that exclude traditional indigenous and local knowledges (Ford *et al.* 2016; Obermeister 2017); and the ‘virtual invisibility’ of the main victims of climate change - and especially of the poorest children (Fløttum,

¹³³ A particularly unjust (and arguably also offensive) example of how the writing team’s discretion to ignore comments was how this enabled WGIII of the Second Assessment Report to assign a cash value of \$1.5 million to a human life in the OECD “against a mere \$150 000 in the developing countries” when calculating the ‘social costs’ of climate change (Meyer & Cooper 1995, cited in Agrawala 1998b, p. 626).

¹³⁴ Economists comprised half of the social scientists in AR5’s WGII and nearly two-thirds of the coordinating lead authors of AR5’s WGIII (Obermeister 2017). This predominance of economists in WGII and WGIII dates back to 1990, when the WGII SPM raised “a need to develop a methodology to assess the sensitivity of ‘socio-economic’ systems to climate change” and WGIII, reflecting “the decision criteria of the most influential government [the US], [identified a need to collect]... economic data for use in cost-benefit analyses” (Boehmer-Christiansen 1994a, p. 149). Boehmer-Christiansen (*ibid.*) concludes that in this period (between 1990 and 1992) “[t]he ground was ... prepared for mainstream economics to join the IPCC research agenda, as demanded by the US government and well organized social science research interests.”

Gasper & St Clair 2016).¹³⁵ In addition, critics point out that some of the sources of bias in the operations of the IPCC are not immediately evident. Analysing the educational background and institutional links of the AR5 Working Group III authors, Corbera *et al.* (2015) find that while the IPCC has succeeded somewhat in including the participation of scientists from the Global South, most of these scientists are trained in Global North institutions (particularly in the USA and UK), with participants from some Global South countries (such as India and Brazil) being more integrated into the IPCC research network than others. They thus conclude that:

Although geographic representation has increased, our analysis makes apparent that actors and institutions in the North continue to play a dominant role in constructing the IPCC's assessment of mitigation and thus their influence on the UNFCCC process. These findings combined might also suggest why the WGIII AR5 presents a fairly strong harmonization of views, compared with the diversity one finds across the social sciences of climate change more broadly, and explain why WGIII finds it difficult to effectively incorporate many important questions into its discourse, notably questions of justice or governance, because the disciplines dominating the WGIII author team do not have these questions at their core and frame important questions narrowly. For example, referring to 'behavioural change' instead of 'consumption practices' ignores important insights from disciplines (in this case sociology) that remain largely excluded from the process.

(Corbera *et al.* 2015, pp. 98 - 99).

While such liberal critiques of IPCC practices are clearly motivated by a desire to address the need to incorporate alternative world views in climate change reports, as discussed previously many critiques of the IPCC's work are motivated by the desire to protect the interests of influential industry lobby groups. Indeed, a critique of the IPCC's work can sometimes even be motivated by diametrically opposed

¹³⁵ Obermeister (2017, p. 82) cites Berkes' (1999) definition of indigenous knowledge as 'a cumulative body of knowledge, practice and belief evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment,' and Stevensons' (1996) definition of Traditional Ecological Knowledge as comprising 'three interrelated components: i) specific environmental knowledge, ii) knowledge of eco-system relationships, and iii) a code of ethics governing appropriate human-environmental relationships.' The extent to which such knowledge systems are ignored in IPCC reports is demonstrated by how only nine (2.9%) of the 309 chapter authors of the IPCC's AR5 WGII report had published on indigenous communities and climate change (Obermeister 2017, p. 84).

agendas on the part of the critics, and the issues surrounding the reporting of uncertainties in IPCC reports is a good example of this.

Drawing on the example of how the assumptions of the 1970s scientific models of the processes involved in ozone depletion turned out to be oversimplified to the extent that they failed to predict the large ‘ozone hole’ observed over the Antarctic in the 1980s, Oppenheimer *et al.* (2007) argue that uncertainties in climate change models should be reported on in order to *promote* taking action on reducing GHG emissions.¹³⁶ The danger that the uncertainties involved in climate change research that the IPCC assesses and reports on is being similarly downplayed leads the authors to suggest that the emphasis on consensus when finalising climate change reports is misguided, and that it is “important that policy-makers understand the more extreme possibilities that consensus may exclude or downplay” (Oppenheimer *et al.* 2007, p. 1505). On the other hand, with the aim of achieving the diametrically opposite aim of *delaying* taking action on reducing fossil fuel based GHG emissions, the representatives of fossil fuel interest groups “try to steer the IPCC message toward emphasizing uncertainties and greenhouse gases *other* than carbon-dioxide” (Agrawala 1998b, emphasis in original; see also Armitage 2005). This example points to the validity of Hajer’s argument that criticisms of the IPCC for not being “‘purely’ scientific” miss the point since, as shown throughout the discussion in this chapter, “the essence of its organizational practice ... is, indeed, a political framing in itself” (Hajer 2012, p. 458).

Evaluation of the IPCC: It works exactly as it was intended to work

As argued above, liberal critiques of the IPCC miss the point: rather than this institution embodying “the long-term liberal dream of using dispassionate scientific research as a basis for transnational policy” (Agrawala & Andresen 1999, p. 471), it was consciously established and then consciously shaped in a way that facilitates the agenda of what Agrawala and Andresen (*ibid.*) refer to as ‘liberalism’s enemies.’ Thus

¹³⁶ The ‘various heterogeneous chemical reactions’ contributing to ozone depletion were ‘discounted’ by most research modellers before this discovery, although some scientists had raised concerns about the potential implications of excluding these reactions – concerns that were “generally downplayed in assessments until the ozone hole was reported” (Oppenheimer *et al.* 2007, p. 1506).

‘trapped’ between criticisms from climate change deniers and criticisms from political liberals, climate scientists — who are notoriously naïve when it comes to politics and try to avoid political issues (Appenzeller; Holt 2017; Luton 2015) — are in an unenviable position. The psychological stress they experience as a result of their awareness of the uncompromising reactions of the physical Earth System to further GHG-induced radiative forcing is compounded by the psychological stress caused by the attacks on their personal integrity (Biddle & Leuschner 2015; Holmes 2015a; Oreskes & Conway 2010). These psychological stresses, and demands to continually respond to criticisms they have already addressed, also detract from the ability of climate scientists to focus on their scientific work (Biddle & Leuschner 2015; Leuschner 2016) – work which is, in itself, overwhelmingly complex given the multifaceted dynamics of the Earth System.¹³⁷ As Luton (2015, p. 157) points out, however, “[t]he establishment of the IPCC was a political act that was politically motivated,” and the individual scientists volunteering to work within this institution need to develop a deeper awareness of this as do their liberal critics.¹³⁸ In the final analysis, and as discussed in detail in this chapter, the origins, structures, and disciplining of the IPCC make it difficult to disagree with ecosocialist arguments that

¹³⁷ Empathy with the difficulty climate scientists face as a result of climate denier attacks, coupled with concerns about the physical ramifications of ‘business-as-usual’ and of the ‘insidious effect on research’ as climate scientists understate the extent and the effects of global climate change or try to avoid doing certain kinds of research in order to avoid harassment, even leads some theorists to argue that climate scientists should consider not conducting ‘dissenting’ research that could be used in a way that is ‘epistemically detrimental’. Refer to Biddle & Leuschner 2015 and Leuschner (2016) for very interesting discussions of the conditions under which dissenting research could be considered to be epistemically detrimental. Refer to Balint’s (2003) discussion of the controversy surrounding Bjørn Lomborg’s 2001 book, *The Skeptical Environmentalist*, which summarises some scientists’ perspectives on how such work is epistemically damaging as well potentially contributing to negative practical outcomes.

¹³⁸ Scientists who are being harassed by ideologically motivated climate change deniers may also benefit from an understanding of their attackers’ motivations as this could save time (arguing with these people is pointless) as well as help the scientists protect themselves against the psychological damage these attacks cause. Lewandowsky, Cook and Lloyd (2016) develop an interesting argument that climate change deniers may be motivated by what psychologists refer to ‘identity-protective-cognition’ which could provoke reactions ranging from moderating their perceptions of the risks involved to adopting incoherent conspiratorial arguments to justify their contrarian positions. The authors of this paper make the interesting point that “[c]limate science denial is... perhaps best understood as a rational activity that replaces a coherent body of science with an incoherent and conspiracist body of pseudo-science for political reasons and with considerable political coherence and effectiveness” (*ibid.*, no page number).

the political institutions of capitalism are incapable of solving the environmental problems that capitalist social relations of production engender. These institutions are especially incapable of addressing the problem of the GHG emissions that are the by-product of the fossil fuels underpinning the global capitalist economy as it has developed historically. This point is further underscored by considerations of what progress has been made in reducing GHG emissions since the establishment of the UNFCCC in 1990, which is briefly discussed below, while the contentious events at COP-15 in 2009 and the outcomes of COP-21 in 2015 are discussed in more detail in later chapters.

The United Nations Framework Convention on Climate Change (UNFCCC)

The UNFCCC (also referred to as the ‘Framework Convention’) was signed at UNCED (the first Rio Earth Summit) in 1992 and entered into force in 1994 (UNFCCC 2006). The Framework Convention constitutes the ‘basic framework’ of climate change governance and is ‘largely procedural’; as Bodansky (2001, p. 32) explains, its “main value is to establish a legal and institutional framework for future work through regular meetings of the parties and the possible adoption of more substantive protocols.” The UNFCCC took this form because negotiations during its drafting were contentious, with the US and allied governments refusing to countenance binding ‘targets and timetables’ for reducing GHG emissions (Bodansky 2001).¹³⁹ Other contested issues during the initial negotiations of the UNFCCC centred around the concept of ‘common but differentiated responsibilities’ (CBDR), which acknowledges the historical responsibility of the developed countries for the accumulation of most historical GHG emissions and was intended to accommodate what was seen as the development needs of the Global South countries by requiring developed countries to take the lead in reducing GHG emissions (Bodansky 2001; McGee & Steffek

¹³⁹ US allies on issues related to climate change have varied over time, depending on the issue and on how it aligns with other negotiating parties’ agendas. Their most frequent allies have been oil-producing states in both the Global North and the Global South (for example, refer to Depledge 2008).

2016).¹⁴⁰ The US has, to the contrary, been particularly insistent on the need for all countries (including those in the Global South, and irrespective of historical responsibility) to limit their GHG emissions (Agrawala & Andresen 1999). US policymakers have also insisted on the establishment of strong implementation mechanisms, detailed reporting requirements, and a noncompliance procedure (Bodansky 2001); as discussed in detail in Chapter 6, such accounting measures are prerequisites for commodifying carbon and using market mechanisms such as carbon trading to act on climate change. Bodansky (2001) concludes that the Framework Convention adopted in 1992 ‘papers over’ rather than resolves the Global North/Global South divisions. In liberal terms, then, the UNFCCC is best described as aspirational and, at the insistence of US negotiators, contains only ‘ambiguous language’ regarding GHG emission reduction commitments (see also Agrawala & Andresen 1999; Boisson de Chazournes 2008).¹⁴¹ Since the UNFCCC did not demand any binding commitments, the governments of all developed countries other than Turkey ratified it quickly (Gupta 2010, p. 640). The George HW Bush administration, too, signed the UNFCCC at the Earth Summit in 1992 and the US Senate ratified it later that year (Agrawala & Andresen 1999). Being a party to the UNFCCC allowed the US to attend meetings held under its auspices and thus to shape its evolution, as discussed below. It is for this reason that influential actors, including representatives of large fossil fuel corporations such as ExxonMobil, expressed opposition to the Trump administration’s recent decision to withdraw from the Paris Agreement (Milman, Smith & Carrington 2017); as ConocoPhillips spokesperson put it, being party to the Paris Agreement “...gives the U.S. the ability to participate in future climate discussions to safeguard its economic and environmental best interests” (Lui 2017). It is for the same reason that ANU Environmental Policy academic Luke Kemp maintains that “A US withdrawal would be the best outcome for international climate action” because “...the US and the

¹⁴⁰ Pre-empting being held financially liable for its share of historical emissions, US interpretations of CBDR insist that this principle does not allocate responsibility for past GHG emissions (McGee & Steffek 2016).

¹⁴¹ According to Agrawala and Andresen (1999, p. 461), “[it] was solely as a result of U.S. adamancy even in the face of complete isolation that the final text of the UN Framework Convention on Climate Change (UNFCCC) contains only ambiguous language with regard to commitments.”

Trump administration can do more damage inside the agreement than outside it” (Kemp 2017a; see also Kemp 2017b). US influence on the evolution of the UNFCCC has been evident since its initial establishment, as several analysts point out.

Gupta (2010, p. 640) identifies five sets of principles in the UNFCCC: CBDR and respective capabilities; sensitivity to the needs of particularly vulnerable countries; adoption of the precautionary approach subject to cost-effectiveness; the right of all countries to pursue sustainable development; and the need to support an open international economic system.¹⁴² The contested issues and the neoliberal economic principles enshrined in the UNFCCC have continued to block progress at the annual COPs, which Orr (2006, p. 148) describes as “the highest decision-making body for the climate change negotiation process.” The first COP was held in 1995 in Berlin, and its outcome was the ‘Berlin Mandate’ to develop a protocol requiring developed countries to decrease their GHG emissions (Agrawala & Andresen 1999). More than two decades later, twenty-two COPs have been convened resulting in several agreements, declarations, accords, plans of action, and even a protocol (the Kyoto Protocol, which came into force in 2005) - all with little (if any) effect on reducing GHG emissions. Even within the narrow confines of a liberal reformist vision, Vihma’s (2010, p. 6) argument that “The major challenge for the legitimacy of the UN-based climate regime has been the lack of substantive decisions, in other words its lack of effectiveness” is even more valid today than it was when it was written given that all plans of agreeing to binding GHG emission reduction targets and timetables for achieving such reductions have now been successfully defeated by successive US administrations and their allies, as discussed in more detail in Chapter 6.

Citing US negotiators’ success in removing any mention of targets and timetables in the UNFCCC, and its success in the Kyoto Protocol’s inclusion of ‘flexible’ market mechanisms such as emissions trading, Joint Implementation (JI) and the Clean Development Mechanism (CDM), Thompson (2006) argues that the US influence over the nature of the evolving climate regime has been ‘disproportionate’ (see also Agrawala & Andresen 1999). By refusing to ratify the Kyoto Protocol (Givens 2014;

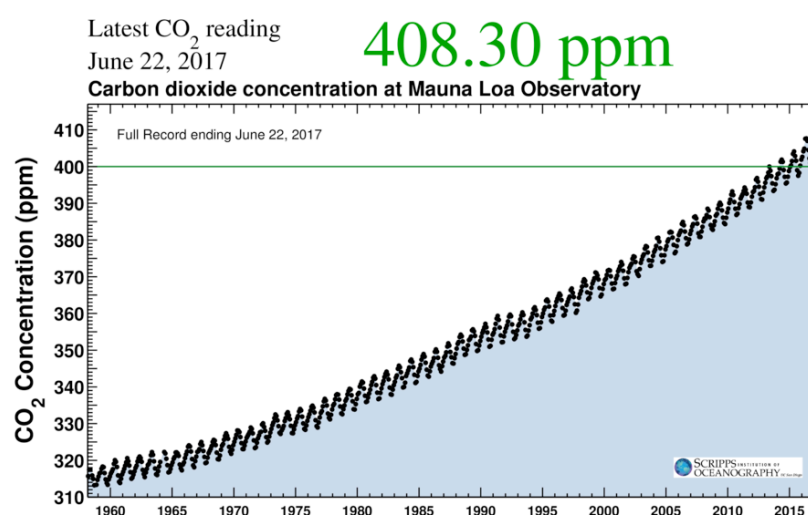
¹⁴² The notion of ‘respective capabilities’ refers to the different capabilities that countries have to address the problem (Gupta 2010).

McAdam 2017), initiating a shift to 'voluntary' GHG emission targets and pushing forcefully for 'developing country participation' in GHG emission reductions at COP-15 and, most recently, by entrenching this so-called 'bottom-up' approach while also ensuring a very weak outcome in the form of the 'Paris Agreement' drafted at the 2015 COP-21, the US has effectively taken the lead in blocking effective climate action. As Wirth (2016, p. 169) notes, because the US INDCs in the Paris Agreement are non-binding and because all INDCs under this agreement "have the same international legal character," *none* of the participating country's INDCs are legally binding.

Material capabilities: The effects of the failure of the official climate change 'regime' to reduce GHG concentrations on the biosphere

The neoliberal ideology of 'open' and 'free' global markets informing the determination of the US and its allies to maintain conditions conducive to 'business as usual' has resulted in increasing global CO₂ concentrations from 363.3ppm since COP-1 in 1995 to 409.01ppm in 2017 (carbonify.com).¹⁴³ The steady rise in annual CO₂ concentrations in the atmosphere is clearly evident in Figure 10 below.

Figure 10: CO₂ Concentrations 1960 - 2017



Source: SCRIPPS Institution of Oceanography (2017)

¹⁴³ These figures are CO₂ averages for the month of April (carbonify.com)

Moreover, research by Foster, Royer and Lunt (2017) shows that contemporary CO₂ concentrations are not only higher than they have been at any time in the past two hundred million years but are also increasing more rapidly than at any point in at least the past sixty-six million years. Average global temperatures in 2016 were 1.1°C higher than the pre-industrial (1880-1900) average, while Arctic and Antarctic sea-ice extent were simultaneously at record low levels (AMAP 2017; WMO 2017). This is despite the efforts of the many dedicated scientists and other experts who volunteer their time to work within the IPCC, and despite a more 'enlightened' faction of capital arguing for 'green economic growth' and the activism of a large, albeit divided, climate movement that has developed within civil society to exert pressure on policymakers to take action on climate change, as discussed in Chapter 6.

In accordance with the neo-Gramscian analytical perspective outlined in Chapter 3, Chapter 6 provides an overview of the social dynamics of the current climate movement, tracing its origins not only to the earlier environmental movement but also to changes within the US state that led to the rise of a particular sort of environmentalism, the failure of the official climate change 'regime' established under the influence of US dominance, and the alter-globalization anti-capitalist movement that developed in the 1990s in reaction to the imposition of neoliberalising policies under the leadership of the US. The composition of the climate movement is analysed in terms of its two major 'wings': the reformist climate action movement that supports incremental changes to the current system in order to mitigate further global warming, and the more radical climate justice movement that argues for widespread system change in order to mitigate further global warming and adapt to the warming that is now inevitable in ways that are socially just. These two extreme positions within the climate movement are exemplified by the reformist 'Climate Action Network International' (CAN-I) and the radical 'Climate Justice Now!' (CJN!) coalition, and the location of ecosocialist ideas within the latter wing of the climate movement is explained with reference to events leading to the split within the climate movement into these two 'camps' as well as to the ideological differences leading to this split.

Chapter Six: Social dynamics and the climate movement

“To fully understand how and why Americans came to look at wilderness and other aspects of the American Earth in new and more comprehensive ways, we must look more comprehensively at how they began to see the whole planet – the Earth itself – as in some ways American.”

Robertson (2008, p. 584).

Introduction

Having provided an overview of the official climate regime and its limitations and ineffectiveness in Chapter 5, in this chapter I discuss the climate movement that developed within civil society to draw attention to the issue of climate change and to demand effective action to address it. Using the adapted analytical schema outlined in Chapter 3, my analysis incorporates discussions of the ways in which the social dynamics of the climate movement relate to formal institutional responses to climate change and how these play out at global, state and local levels. I also discuss how different factions of capital and labour (Cox’s ‘social forces’) impact on, and are influenced by, the social dynamics unfolding within the climate movement. This analysis is furthermore conducted with reference to material capabilities, dominant institutions, social facts, and competing ideas.

As discussed in the previous chapter, in the years following Hansen’s 1988 testimony, an increasing number of scientific reports were being published emphasising, with ever-greater urgency, the need to take swift and effective action to mitigate anthropogenic global warming. Much of the scientific evidence of this warming and its effects is summarised in the IPCC’s Assessment Reports, and the widespread publicity accompanying the release of these reports attracts attention from concerned individuals and groups within civil society (Carpenter 2001). Importantly, however, it is not only scientific reports that attract public attention: direct experiences and media coverage of the effects of climate change and environmental degradation also sometimes provoke public concern (Carpenter 2001). As weather patterns change because of anthropogenic global warming, ‘extreme’ weather events increase in duration and intensity around the world

(Steffen *et al.* 2017; WMO 2016b) and many communities are directly impacted when their lives are disrupted by unusually intense floods, droughts, and wildfires.¹⁴⁴

The concrete evidence of the effects of global warming and environmental degradation, and of the dangers these pose to human societies as well as to other life-forms, has become more difficult to ignore. However, while research evidence suggests that people affected by some types of extreme weather events in the advanced capitalist economies pay more attention to climate change than they did before these experiences, this is only for a brief period after the event (Sisco, Bosetti & Weber 2017). A recent survey of the literature by Drews and van den Bergh (2016, p. 865) shows that evidence linking increased concern about climate change to direct experiences with extreme weather events is ‘anything but conclusive’ (Drews and van den Bergh 2016, p. 865). While it seems counterintuitive that people suffering the consequences of extreme weather events fail to engage more actively with the issue of climate change, which scientific investigations increasingly cite as a contributing factor to the increased frequency and severity of such events, the general and widespread lack of interest in the issue becomes even more perplexing if one considers the current state of scientific knowledge about the causes, current trajectory, and likely outcomes of anthropogenic global warming, and the widespread availability of this knowledge to the public (Spence, Poortinga & Pidgeon 2012).

The apparent incongruity between the knowledge available about global warming and the lack of interest and response to this knowledge has prompted an increasing

¹⁴⁴ The IPCC (2007, p. 875) defines an ‘extreme weather event’ as “An event that is rare within its statistical reference distribution at a particular place. Definitions of ‘rare’ vary, but an extreme weather event would normally be as rare as or rarer than the 10th or 90th percentile. By definition, the characteristics of what is called ‘extreme weather’ may vary from place to place. Extreme weather events may typically include floods *and* droughts.” Scientists have been warning for many years that what mainstream media report as ‘extreme weather events’ is becoming the ‘new normal’ (Harvey 2011; IPCC 2012; Hedegaard 2012). Defining the ‘new normal’ “as the point in time when at least half the following twenty years are warmer than 2015’s record breaking global temperatures,” Lewis (2016) describes the findings of the research team she worked with as ‘straightforward’: in Australia, which is ‘the canary in the coal mine,’ “2015’s record-breaking temperatures will be the new normal between 2020 and 2030 according to most of the climate models we analysed.”

number of investigations trying to identify possible barriers at play (for example, Adams 2014, 2017; Blühdorn 2017; Hausknost 2017; Leahy, Bowden & Threadgold 2010; McAdam 2017; McCright *et al.* 2016; Weber 2010; Whitmarsh 2008). Not surprisingly, many of these investigations focus on individuals' psychological dispositions, and a brief overview of some of the main findings in the discipline area of psychology helps to clarify why the climate change crisis — a crisis caused by economic, political and social systems and practices that *can be changed* to address it — is being largely ignored.

Why individuals fail to respond to climate change: A brief detour through the discipline of psychology

The website *Climate State* (2017) hosts a short youtube clip from *Cosmos: A Spacetime Odyssey*, a 2014 documentary in which US astrophysicist, author and popular science communicator, Neil deGrasse Tyson, makes 'visible' the CO₂ emissions resulting from everyday activities. Tyson does this in the hope that such visualisation will help people better understand how current human activities cause global warming; as Jones, Hine & Marks (2017, p. 332) point out, "incremental rises in CO₂ – an invisible, intangible gas – are hard for many people to comprehend." There are several other challenging features of the current climate change crisis that present additional barriers to peoples' understanding of its severity, and hence that also present obstacles to their willingness to take action to address it. These features include that there is a substantial time lag between the emission of GHGs and when their effects become more explicitly evident. There are also uncertainties about exactly what the effects of accumulating GHGs are now and what they will be in future, and precisely how and where they will affect climate and other aspects of the biosphere (Rogelj *et al.* 2015; Schleussner *et al.*, 2016). In addition, there is a mismatch between the minority of the people most responsible for causing the problem and the majority of the people who have to suffer the consequences, both now and in the future – discrepancies that are exacerbated by the former having resources to adapt to the effects of climate change while the latter do not (Rogelj *et al.* 2015). These features of global warming elicit responses from individuals that are

encapsulated in the concept 'psychological distance' (Jones, Hine & Marks 2017; Spence, Poortinga & Pidgeon 2012).

In the context of climate change, 'psychological distance' refers to the way in which many people living in the advanced capitalist societies perceive it as "...a set of uncertain events that may or may not occur far in the future, affecting distant places and people dissimilar to themselves" (Jones, Hine & Marks 2017, p. 340). Another feature of this psychological distance is the way in which people "clearly distinguish between personal and societal impacts of climate change, with several studies finding that personal risks of climate change are judged to be lower than societal risks" (Spence, Poortinga and Pidgeon 2012, p. 959). One such study, conducted by Leahy, Bowden and Threadgold (2010, p. 857), found that people they interviewed engaged in what the researchers refer to as 'two-track thinking' when it comes to issues such as climate change:

...there is one track in which the critical nature of environmental problems is acknowledged, within which people see the future as apocalyptic, and another in which people envisage their own personal future and make decisions about political action, [a line of thinking where] 'business as usual' reigns and there is no acknowledgement of the environmental crisis.

These studies, and similar investigations of cognitive barriers to climate action, are motivated by attempts to frame communications about climate change in ways that will prompt individuals to change their behaviour so that it is 'sustainable' (Spence, Poortinga, Pidgeon 2012) or, more generally, to encourage individuals 'to engage in behaviors to mitigate climate change' (Jones, Hine & Marks 2017, p. 339). People are, however, embedded within larger social and institutional contexts that both shape the individualistic modes of thinking that result in 'psychological distancing' and simultaneously limit the effectiveness of any individual's attempts to achieve a more sustainable lifestyle, and an understanding of these contexts is crucial if one is to identify the underlying sources of the problem that must be addressed instead of seeking solutions that are limited to attempting to change the way individual people think and behave.

Limiting the rise in average global temperatures to 1.5°C, or even to what some scientists see as a very dangerous 2°C, will at the very least require rapid large-scale and comprehensive transformations of the global energy system as well as of energy use related to the transportation, production and construction sectors (Rogelj *et al.* 2015). It will also involve implementing policies to facilitate the large-scale removal of CO₂ from the atmosphere (*ibid.*).¹⁴⁵ These are not things that individuals have either the resources or the authority to do, no matter how committed they are to living sustainably.¹⁴⁶ Yet, as journalist Martin Lukacs (2017) notes in his aptly-titled article, *Neoliberalism has conned us into fighting climate change as individuals*, “corporate ads, school textbooks, and the campaigns of mainstream environmental groups, especially in the west” exhort individuals to change their light-bulbs, buy ‘eco-appliances’ and install solar panels while the GHG emissions and widespread environmental damage caused by the normal operations of global capitalism render these individual efforts irrelevant.

While individuals cannot address the causes of the global warming crisis by changing their personal behaviour given that the scale of the changes far surpasses what can be achieved at the individual level, what they *can* do is work collectively with others in order to change the *economic, political, and social systems and institutions* that are responsible for the current interrelated environmental, economic, political and social crises. It is therefore the barriers to this sort of action that are important to identify and counter. The balance of prevailing social forces (particularly with respect to the strength and influence of the fossil fuel industry and the weakness of organised labour and civil society), the dogged determination to further the

¹⁴⁵ While Rogelj *et al.* (2015) emphasise large-scale technological innovations for removing CO₂ from the atmosphere, more environmentally safe and socially just and benign solutions are supported in this thesis, as discussed later in this chapter.

¹⁴⁶ Discussing the way in which ‘city people’ have no understanding of what life is like for poor people living in rural areas in the US, one of Cramer’s (2017) interviewees gives an example of how exhortations by rich liberal critics not to ‘drive as much’ are meaningless: “You gotta drive 20 miles to work? You can’t cut that in half.” This is just one example of how realistic solutions for reducing CO₂ emissions involve large, systemic changes that transcend individual values and choices: in this case, people either have to be able to make a living or sustain themselves close to the places where they live, or they must have access to affordable and effective public transport systems to commute to work.

neoliberalising project of extending and intensifying capitalist relations of production by existing global and national institutions and governance structures, and the dominance of social facts that favour individualistic, capitalist economic values all present formidable barriers in this respect, and are discussed in more detail below.

Social forces and prevailing social facts informing individual responses to climate change

Taking a wider view than the studies discussed above, Blühdorn (2017) proposes that because people living in the advanced capitalist economies are reluctant to give up their consumer lifestyles, a new de facto ‘social contract for sustaining the unsustainable’ is emerging in order to ‘adapt’ and develop ‘resilience’. Disturbingly, Blühdorn (2017, p. 57) contends that an important component of this resilience is “the development of coping strategies for ever increasing levels of social inequality, injustice and exclusion” that are the inevitable outcome of the choices of the relatively affluent. Hausknost (2017, p. 64) goes even further by arguing that the social contract that Blühdorn (2017) refers to as *newly* emergent has been evident since the 1950s:

The priority of the mainstream consumer-citizen since the 1950s has always been (I claim) to maximise their material standard of living and to trust in the state to deal with the ensuing environmental problems in terms of technological and regulatory solutions. The ‘limits to growth’ challenge remained unresolved both in 1972 and in 2016.

Hausknost’s (2017, p. 65) conclusion is apocalyptic:

The bleak prospect implied here is that public support for radical change will emerge only once the global problems turn into painful local ones that severely affect the quality of life in affluent societies. Needless to say that at that point it will be too late to solve them.

Leahy, Bowden and Threadgold (2010, p. 865) also maintain that while social collapse is ‘not inevitable’, on current trajectories it is ‘*the most likely* outcome’ [emphasis in original]. Writing along similar lines, Adelman (2015, p. 208) observes that:

The rule of markets has trumped the rule of law, growth and fetishism has trumped environmental protection, and profit has trumped the human rights of peoples. As a consequence, three planetary environmental boundaries have been transgressed – biodiversity loss, climate change, and the nitrogen cycle – and a

further six are under threat (Rockström *et al.*, 2009). The triumph of neoliberalism and green governmentality are Pyrrhic victories.

Like Blühdorn (2017), Hausknost (2017) and Leahy, Bowden and Threadgold (2010), Adelman's (2015, p. 208) final prognosis is also pessimistic:

The fact that we persistently refuse to do what is required, feasible and achievable to save ourselves, our fellow species and our descendants – decarbonising the global political-economy – raises the disturbing prospect that human beings are, uniquely, a species too stupid to survive.

While such pessimistic conclusions are common, and while they may also be realistic and logical (at least as things stand at the moment), it is both practically and morally untenable to allow such thinking to destabilise efforts to bring about the changes that the science dictates if the average global temperature increase is to be limited to 1.5°C above pre-industrial levels.¹⁴⁷ While an additional 0.5°C rise in average global temperatures does not sound like much, emergent research indicates that outcomes for the two scenarios will be profoundly different. Some examples of the differences in likely outcomes include:

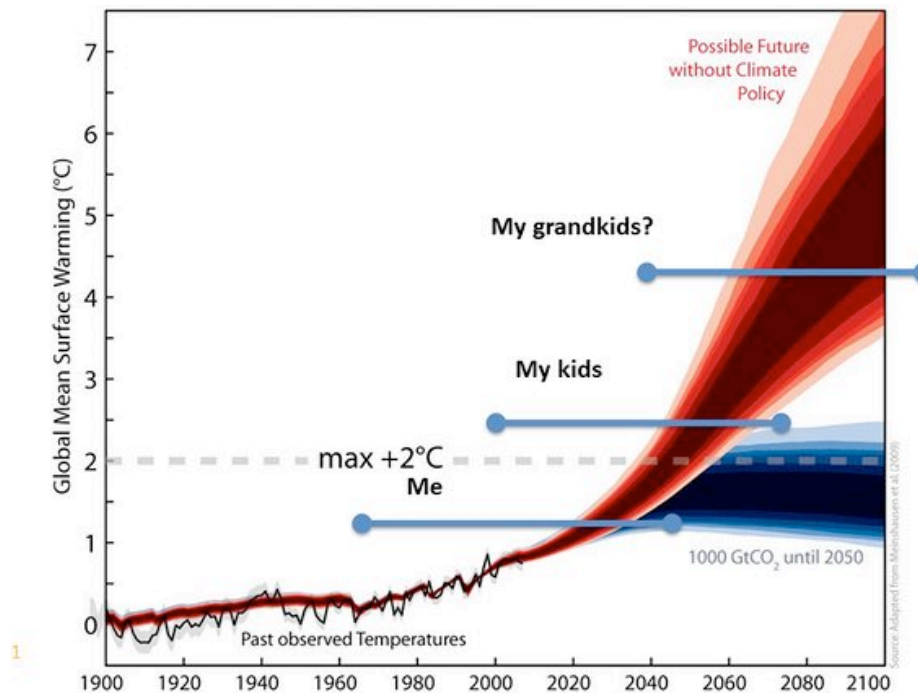
For heat-related extremes, the additional 0.5°C increase in global-mean temperature marks the difference between events at the upper limit of present-day natural variability and *a new climate regime*, particularly in tropical regions [emphasis added]. Similarly, this warming difference is likely to be decisive for the future of tropical coral reefs.... Best estimate sea-level rise projections... indicate a 50 cm rise by 2100 relative to year 2000-levels for a 2°C scenario, and about 10 cm lower levels for a 1.5°C scenario. In a 1.5°C scenario, the rate of sea-level rise in 2100 would be reduced by about 30% compared to a 2°C scenario.

(Schleussner, C-F *et al.*, 2016, p. 327)

In addition, and as the graph below shows, the warming effects of the increasing concentration of GHG emissions in the atmosphere are *already* evident; contrary to popular beliefs, they are not located in some distant future.

¹⁴⁷ Failing to engage with the issue of climate change is morally inexcusable because, as discussed in other parts of this thesis: disadvantaged people are already suffering the worst effects of the unfolding multiplicity of crises; we are currently witnessing the sixth mass extinction as a result of environmental degradation and climate change; and the longer we take to make the necessary changes, the more the dangers of destabilising the Earth System increase so that we may reach a point (if we have not reached this already) when it becomes too late to do anything, thus dooming future generations to an even more uncertain and challenging future than they already face.

Figure 11: Graph showing possible futures for different generations



Source: Joshi (2017)

The graph showing possible futures for different generations was developed by Australian biology professor and climate change researcher Lesley Hughes, and it shows not only that average global temperatures are already increasing but also the possible future warming trajectories that today's young people and their children will have to deal with. Which of these possible scenarios current and future generations will face depends on what actions are taken (or not taken) now (Joshi 2017; Rogelj *et al.* 2015; Schleussner *et al.*, 2016). Climate movement activists and many academics working within the social sciences who are concerned about the consequences of global warming are therefore focusing their attention on trying to identify and address the barriers to a more active civil society engagement with the issue.

Research suggests that personal psychological dispositions such as those identified previously are often constructed and/or compounded by successful climate change denialist strategies designed to delay the adoption of measures that will adversely affect their industries (McCright *et al.* 2016; Stoutenborough *et al.*'s 2014 study cited in Drews & van den Bergh 2016). Climate change denialist narratives work together

with conservative political beliefs and the hegemonic and politically charged neoliberalising discourse that regulating capital will impact negatively on 'economic growth' and hence on jobs (Corner *et al.* 2015; Heath & Gifford 2006; Hornsey *et al.* 2016).¹⁴⁸ Widespread economic insecurities among working people in the advanced capitalist economies since the 1980s, which have become even more pronounced in the aftermath of the 2008 GFC, and the related (and very understandable) general tendency of people living in precarious circumstances to prioritise immediate concerns such as jobs, housing, and career prospects at the expense of future possible catastrophes (Corner *et al.*, 2015), make them susceptible to arguments that dealing with climate change will damage the economy and make it more difficult to find work. However, even people who claim to be both very knowledgeable and very concerned about climate change often fail to take action to try to influence public policy, and Doherty and Webler (2016) identify several possible reasons for this, including that many people do not believe that their actions can make a difference and that 'similar others' (their peers) are not taking action either.

Perceived self-efficacy is a particularly important determinant of whether or not young people engage with the issue of climate change: "Feelings of powerlessness in the face of global climate change and the sense that personal actions would not make a difference have been reported in several youth studies" (Corner *et al.* 2015, p. 527). In addition, like the rest of the population, young people living in advanced capitalist economies also prioritise more immediate issues such as finding work and establishing careers (Corner *et al.* 2015). Moreover, while they do not trust politicians and are generally dissatisfied with formal political processes, "young people tend to see governments as having the greatest responsibility for catalysing a response to climate change" (Corner *et al.* 2015, p. 530).

¹⁴⁸ Hoffarth & Hodson (2016) find that conservatives' beliefs and attitudes about climate change in the US are frequently less motivated by economic concerns than by a more general antagonism to environmentalists, who are perceived as 'green on the outside, red on the inside.' In their meta-analyses of studies examining determinants of belief in climate change, Hornsey *et al.* (2016, p. 622) find that while there are links between political ideology and climate change beliefs, these beliefs are "more aligned to specific identification with political parties than to underlying political ideologies."

Despite the general lack of active public engagement in formal political processes, there are nevertheless some people in the advanced capitalist economies who are not only concerned about the ineffectiveness of official responses to climate change and the many other current crises but also try to engage with these issues in a variety of ways, including by participating in the heterogeneous climate movement that emerged in the late 1980s. I precede my discussion of the climate movement with an overview of the environmental movement, elements of which started paying attention to global warming from the early days of its emergence as an issue of global concern. I then discuss the way in which the ineffectiveness of official institutional responses to the climate change crisis led to the development of overtly political disagreements within the climate movement, which has grown in both numbers and complexity over the more than two decades of failed official climate change negotiations. Ecosocialist contributions to the social dynamics and contending ideas within the climate movement are extensive and, while referred to briefly at various points in this chapter, are discussed in detail in Chapters 7 and 8.

A neo-Gramscian analysis of the development of the modern environmental movement in the advanced capitalist economies

The modern environmental movement in the advanced capitalist economies dates back to at least the 1960s, with its origins attributed to a growing public awareness of issues that extended beyond the dominant concerns of the earliest (pre-World War II) ‘nature preservationist’ and ‘nature conservationist’ environmental thinkers and organisations (Callaghan 1990; Cohen *et al.* 1998; Elliott 2004; Hutton & Connors 1999; Johnson & Frickel 2011; Sale 1993; Sessions 1987).¹⁴⁹ Many analysts refer to

¹⁴⁹ Refer to Sale (1993) for a detailed account of the development of the environmental movement in the United States and to Hutton and Connors (1999) for a history of the Australian environmental movement. Johnson and Frickel (2011) provide an interesting empirical analysis whose results present a more nuanced relationship between the establishment and activity of environmental organisations focused on nature conservation issues and those focused on ecological issues in the US between 1962 and 1998. Their study confirms their hypothesis that conservation NGOs were established when public perceptions focused on threats to the environment while ecological organisations developed when threats to human health were salient in public perceptions. Dreiling, Lougee and Nakamura (2017) describe some of the features of the environmental movement in Japan, and their case study demonstrates the constraints

the 1962 publication of Rachel Carson's *Silent Spring*, which provided scientific evidence of the damaging effects of pesticides on both natural ecosystems and human health, as marking the beginning of this new environmental movement (for example, refer to Hutton & Connors 1999, Sale 1993, and Sessions 1987).

While Carson's book may have been used by environmental movement actors to promote their cause, Meyer and Rohlinger (2012) caution against such oversimplified 'big book myths,' which they describe as one version of 'immaculate conception' stories used by both social movement actors and academics studying them to explain the origins of social movements. Not only are such mythical accounts historically inaccurate, they are also counterproductive in that they ignore the wider context within which social movements arise, flourish and succeed (or fail).¹⁵⁰ Moreover, these simplified accounts promote the false perception that the power of ideas arising from within civil society alone can effect social change, editing out crucial facts such as the time and effort required to build effective social movements and the wider context of the role of prevailing material conditions and ideologies in shaping the emergence and evolution of these movements. In neo-Gramscian terms, simple stories with linear timelines and a single, identifiable 'origin' fail to take into account the complex interactions between the prevailing world order, forms of state, material capabilities, institutions, social facts, and the social forces shaping the emergence and evolution of social movements. Analysed in these latter terms, the modern environmental movement emerged in the context of 'American Empire' (Robertson 2008), when US policymakers increasingly began to link the global management of natural resources with issues of what they defined as 'US national security.'

that environmental organisations operate in when they collaborate with government and business institutions.

¹⁵⁰ The historical inaccuracy of claiming Carson's *Silent Spring* as the beginning of the modern environmental movement is clear when one considers that geologist Fairfield Osborn's *Our Plundered Planet* and ornithologist William Vogt's *Road to Survival*, both bestsellers published in 1948 and both promoting Malthusian arguments that developed links between US national security and socio-economic problems caused by environmental degradation, put a 'spotlight' on ecology more than a decade before the publication of Carson's book (Robertson 2008).

The modern environmental movement also developed at a time when the advanced capitalist countries were organised as liberal welfare states and the prevailing ideology (that constituted the 'social facts') was that governments had some responsibility for protecting 'public goods' (Meyer and Rohlinger 2012). Whatever 'wins' the environmental movement may have achieved in pushing government institutions to legislate for environmental protection should therefore be understood in the context that national governments were not as ideologically opposed to introducing such legislation in the late 1960s and early 1970s as they are today (Kraft 2000): as Meyer and Rohlinger (2012, p. 148) emphasise, while "*activist government was a critical factor in spurring social mobilization in the history of the movements of the 1960s*" [emphasis in original], support for limited government intervention in 'public affairs' has grown 'tremendously' from the beginning of the 1970s. In short, it is much more difficult to persuade governments to regulate for environmental protection in the current era of neoliberalising global capitalism. In the following discussion, elements of the neo-Gramscian conceptual schema are systemically deployed to analyse the development of the modern environmental movement.

American hegemony, welfare-statism and the emergence of the modern environmental movement in the 1960s

In their critique of 'big book myth' accounts of the rise of environmentalism and other social movements in the United States in the 1960s, Meyer and Rohlinger (2012) highlight evidence that the US federal government had started addressing some of the issues that the new social movements were concerned about even prior to the movements' emergence (see also Kraft 2000). For example, Meyer and Rohlinger point out that the US government had commenced Congressional hearings about the pollution caused by pesticides in the 1950s. Rather than sparking the beginning of the environmental movement, they argue that *Silent Spring* 'articulated and amplified a pre-existing concern,' and that the federal government's environmental protection measures, having begun prior to the book's publication, continued after it was published, "but not directly in response to Carson's text"

(Meyer & Rohlinger 2012, p. 143; see also Kraft 2000 and Podhora 2015).¹⁵¹ While Meyer and Rohlinger do not discuss *why* the US government was so concerned about environmental issues in the 1950s and 1960s, Robertson (2008) focuses on this question, as well as on how the wider context of 'American Empire' (*Pax Americana*, in neo-Gramscian Robert Cox's terms) shaped the form of the US environmental movement that emerged at this time.

Robertson (2008) begins his analysis of the rise of the modern environmental movement by referring to conditions leading to the rise of earlier forms of environmentalism in the Global North. Citing studies that link the rise of this earlier environmental movement to the colonial expansion commencing in the seventeenth century (which culminated, in Cox's analysis, with *Pax Britannica*), Robertson recounts arguments that environmentalism constituted a form of 'green imperialism' during this period. Two key points emerging from these analyses of 'green imperialism' are that "economic and political dominance on a global scale required a degree of planning that helped promote conservationism" and that "European conservation actually emerged from the [natural resource] *management requirements* of colonial empires" (Robertson 2008, p. 563, emphasis added; see also Dalby 2004). The importance of developing such an understanding of the rise of environmentalism is that it focuses attention on how environmental concerns "often emerge from and reinforce hierarchies of power" and, relatedly, that while environmental concerns can serve as issues around which to mobilise anti-imperialist forces, they can also be used "as a handmaiden to empire, providing imperial officials with another way to regulate and control far-off lands and peoples" (Robertson 2008, pp. 563 - 564).¹⁵² Following the logic of these earlier accounts of the relationship between conservationism and European colonialism, Robertson (2008, p. 564) develops an argument that growing US global power in the post-WWII

¹⁵¹ Podhora (2015, p. 26) notes that "efforts to address pollution had been afoot for more than two decades in 1969"; however, he nevertheless credits the environmental movement with providing "the political conditions necessary to achieve meaningful legal protections."

¹⁵² In the context of climate change negotiations, global South fears that the issue of global warming is being used as an excuse by powerful global North governments to control their resources and to prevent their economic development has caused much distrust in the UNFCCC negotiations (Gupta 2010).

years similarly “...created new imperatives to manage resources, new sciences with which to do so, new forms of environmental crises, new anti-modern doubts, and ultimately new policy frameworks,” and that these need to be taken into account in explanations of why the modern environmental movement ‘exploded’ on the scene when it did, and why it took the forms it took.

While the US government tried to secure resources for its ‘global-spanning military’ by “researching and planning natural resources on a new global scale and with new urgency” during and after WWII, ideas that would later be further developed within the environmental movement of the 1960s were disseminated and popularised from as early as the 1940s by public intellectuals such as the bestselling author Fairfield Osborn, the entertainer Walt Disney, and the celebrity Charles Lindbergh (Robertson 2008, pp. 564 - 567).¹⁵³ Government-commissioned reports such as *Resources for Freedom* (1952), as well as NGOs such as *Resources for the Future* (privately funded by the Ford Foundation and acting as a ‘clearinghouse’ of environmental information) further “helped to lay the foundation for the environmental movement” by raising awareness of the need to manage resource scarcities. Robertson (2008, p. 576) argues that US government-sponsored research, concerned primarily with ‘national security’ issues after WWII, contributed in many ways (which are not always acknowledged within histories of the environmental movement) to the ideas of interconnection that characterised the ecological thinking of the time, such as “...the idea that no species, including *Homo sapiens*, could live in isolation from its surroundings.”¹⁵⁴ This emerging perspective, as well as other issues

¹⁵³ An illustrative concrete example supporting the argument of the emerging links between access to natural resources and US national security is the “list of sixty strategic resources the United States needed, of which thirty came entirely from overseas” compiled by US government planners, who then “took measures to guarantee their supply” (Robertson 2008, p. 568). Conca (2004, p. 14) notes that this project has succeeded, identifying the 1980s debt crisis as having been instrumental in “lock[ing] in steady resource supplies at favourable prices” and the 1990s ‘trade liberalization initiatives’ as further deepening US capacity to access these resources.

¹⁵⁴ One example of how government-sponsored research contributed to ideas later taken up by the environmental movement was the funding it gave to ‘the father of modern ecosystem ecology’, Eugene Odum, in the early 1950s to conduct environmental studies at a site earmarked for building atomic weapons and to study the effects of nuclear fallout in the South Pacific where the US government had tested atomic weapons. Refer to Robertson (2008) for a more detailed overview of the ways in which

informing the environmental movement's development in some of the advanced capitalist societies in the 1960s, are summarised below. My discussion focuses primarily on the rise and evolution of the environmental movement in the United States, and also refers to one illustrative example of its development in another advanced capitalist society (Australia); while the European environmental movements are also very important, because of time and space constraints they are not discussed in any detail in this dissertation.¹⁵⁵

Material capabilities, institutions, social facts, social forces, and social dynamics shaping the developing environmental movement in the twentieth century

In the early period of the environmental movement's development in the advanced capitalist economies, issues that galvanised public concern ranged from the way in which industrial pollution threatened human health at the local level to wider existential threats to human survival posed by new technologies such as the nuclear technology developed during and after WWII. In the US, widespread public concerns about the potential dangers of radioactive fallout from nuclear bomb tests and of radiation released from nuclear power reactors prompted the establishment of anti-nuclear NGOs such as Friends of the Earth (FoE) in 1969 and Greenpeace in 1971 (Elliott 2004; Sale 1993; Thomson 2017).¹⁵⁶ While a number of high-profile environmental disasters in the 1960s provoked public outcry, Sale (1993) points out that the more immediate threats posed by pollution at local levels were also important in the development of the new US environmental movement.¹⁵⁷

US government and business agendas helped to shape environmental ideas emerging in the 1960s.

¹⁵⁵ The US environmental movement is important in that it influenced the development of environmentalism in other advanced capitalist societies (Falkner 2005).

¹⁵⁶ Refer to Thomson (2017) for a detailed analysis of the transformation of FoE from a system-critical environmental NGO of decentralized grassroots groups into a hierarchically organized organisation which became one of the founding members of the 'Group of Ten', the US 'environmental majors' that adopted a 'pragmatic approach' of seeking gradual reform rather than 'system change.'

¹⁵⁷ The disasters Sale (1993, p. 19) refers to were the deaths of 'some eighty people' in New York City during an 'air inversion' (1966), and oils spills in the English Channel (1967) and along the Californian coastline (1969). These events followed another widely-publicised tragedy in 1964: "the deaths and incapacitation of Japanese [people] who had eaten mercury-contaminated fish from the Agano River" (Hutton & Connors

Expanding industrial activity during the post-WWII economic boom produced pollution and toxic wastes threatening people's health and prompted the creation of a number of NGOs such as the Environmental Defense Fund (1967), as well as smaller local grassroots movements concerned about the pollution that posed health hazards to their communities (Sale 1993). The strength of the growing US environmental movement during this period was evident in the number of participants at the first Earth Day (in 1970) — twenty million people, according to *Time* estimates — and in how, according to some accounts, pressure from this movement forced the Nixon Administration to pass several laws in the 1960s and early 1970s (Sale 1993; see also Cahn & Cahn 1990 and Ruckelshaus 1985).¹⁵⁸ The significance of Earth Day is interpreted differently by other analysts such as Woodhouse (2008, p. 77), who argues that this event signaled the co-optation of the environmental movement (or its *trasformismo*, in Gramscian terms): it now "associated itself with the politics of liberal reform, as mainstream environmental groups settled into a tacit partnership with the federal government."

Australian environmentalism in the 1960s was also motivated by concerns related to the pollution caused by the post-WWII expansion of capitalist industrial activity; however, these early concerns had less to do with the effects on human health than with the damage to non-human natural ecosystems caused by the 'expansion of resource extraction industries' (Hutton & Connors 1999, pp. 90-91). According to Hutton and Connors (1999), the first major environmental campaign in Australia since the 1930s was the campaign that began in 1968 to protect the Great Barrier Reef (GBR) from the threat posed by oil exploration. The environmentalists' extensive education campaign paid off, generating 'overwhelming public hostility to drilling' and thereby winning 'the first reprieve for conservation', with the Reef's

1999, p. 90). Robertson (2008, pp. 578 - 580) emphasises the failure of the Indian monsoon rains in 1965 and 1966, which "sent shock waves of concern about ecological problems around the globe," and refers to the popularity of Paul Ehrlich's 1968 book, *The Population Bomb*, as an indicator of how Americans worried that political instability resulting from ecological disasters in far-off places could threaten their own security and living standards.

¹⁵⁸ The new environmental laws included the Clean Water Act (1960), the Clean Air Act (1963), the Solid Waste Act (1965) and, most significantly, the 1970 National Environmental Policy Act (NEPA) that created the EPA in 1970 (Sale 1993).

protection from business interests later strengthened by the new Whitlam Labor government's legislation establishing it as a national marine park under the management of the Great Barrier Reef Marine Park Authority (Hutton & Connors 1999, pp. 105 – 106).¹⁵⁹

Another notable Australian environmental campaign during the 1960s was the attempt to stop the development of a hydroelectric power station on the Gordon River in Tasmania in order to prevent the flooding of Lake Pedder (Hobday & McDonald 2014). Despite a hard-fought campaign that spanned several years and was widely supported by Australians, and despite the hope for its success generated by the election of the Whitlam Labor government in 1972, dam construction proceeded. Hutton and Connors (1999) nevertheless argue that the Lake Pedder campaign also had positive outcomes for the environmental movement as it led to the formation of the United Tasmania Group, which subsequently became the world's first Green Party and inspired the establishment of green political parties in other countries (see also Hobday & McDonald 2014).¹⁶⁰ According to Hutton and

¹⁵⁹ The GBR's reprieve is now decisively over, with both Labor state and Coalition federal governments approving plans for port expansions in the World Heritage-listed Great Barrier Reef Marine Park (Hobday & McDonald 2014; Horn & Ford 2015) as well as plans for the development of the Adani Carmichael Coal Mine in the Galilee Basin in Queensland. It is estimated that burning coal from this mine will emit 4.6 billion tonnes of additional CO₂ into the atmosphere and lock in more global warming (Brown 2017). Anthropogenic global warming has already contributed to the extensive bleaching events in 2016 and 2017 that damaged 1,500km of the GBR, and scientists worry that it is now beyond saving (Knaus & Evershed 2017); emitting unnecessary additional GHGs into the atmosphere can only exacerbate the dangers to an already-fragile GBR (Ritter 2017). For these reasons, and fifty years after the first campaign to save it, the 'Stop Adani Alliance' was launched by thirteen community groups to challenge these current industry threats to the GBR (Brown 2017) which are, once more, being not only facilitated but also actively pursued by government policies that overwhelmingly favour business interests at the expense of the environment (O'Brien 2016; Ritter 2017).

¹⁶⁰ Refer to Callaghan (1990) for a detailed discussion of the history, ideology, and electoral performance of the Green Party UK, and for a concise overview of the levels of public support that the other newly established European Green parties attracted during the 1970s and 1980s. Müller-Rommel (1985) provides a detailed discussion of the establishment and characteristics of the European Green parties, categorising them into two main groups: 'pure green reformist parties' and 'alternative green radical parties' – a division that is also evident within both the environmental movement and the climate movement discussed in this chapter. Writing two decades after Müller-Rommel, Poguntke (2002) discusses the evolution of European Green parties, including the compromises they had to make once in government and the effects of these compromises on their support base.

Connors (1999, p. 124), another important outcome of the Lake Pedder campaign was that it taught Australian environmentalists that they could not rely on 'gentlemanly agreements' to protect the environment from business interests, and that they "had to learn how to fight and fight with commitment" as they entered the environmental battles of the 1970s.

Sale (1993) and Hutton and Connor (1999) identify the 1970s as a new phase in the development and expansion of the modern environmental movement, with the publication of a number of studies and media reports popularising the dangers of a potentially global ecological collapse. The growing public awareness of the global and interconnected nature of environmental problems was evident in the popularity of publications such as *A Blueprint for Survival* (1972) and *Limits to Growth* (1972), both warning that a finite planet could not support infinite economic growth (Callaghan 1990; Eckersley 2007; Strong 1972).¹⁶¹ Concerns about the health of the ozone layer also entered the public domain in 1971 in the US, as part of what Mazur and Lee (1993, p. 685) describe as a 'highly politicized debate' over a plan to create a fleet of supersonic aircraft which, scientists warned, would seriously deplete stratospheric ozone. The publicity about the dangers of depleting atmospheric ozone intensified between 1974 and 1976 as the media reported on the use of chlorofluorocarbon chemical compounds (CFCs), long-lasting ozone depleting chemicals, in a variety of products which were sold in aerosol containers (Mazur & Lee 1993).¹⁶² The widespread destruction of rainforests as a result of acid rain and their clearance for commercial-scale agriculture in the Global South, and the threats this deforestation posed to biodiversity because of the loss of species' habitats, also

¹⁶¹ Writing in 2012, Christian Parenti described *Limits to Growth* as the 'top-selling environmental title ever published', having been translated into thirty-seven languages and having sold 12 million copies (Parenti 2012). *The Blueprint for Survival* is also identified as a seminal document, with Callaghan (1990, p. 2) describing it as "a manifesto of Green ideology which stands as one of the foundation documents of the movement and the direct inspiration for the formation of Europe's first Green Party, 'People' in 1973 (restyled the Ecology Party in 1975 and known as the Green Party [UK] since September 1985)."

¹⁶² These concerns predated the discovery of the ozone hole, which was reported in *Nature* in May 1985, after which the CFC issue became the focus of renewed intense media scrutiny and additional pressure from environmental activists to ban the use of CFCs (Mazur & Lee 1993).

became growing sources of concern to actors within the environmental movement in the 1970s and 1980s, although the mass media did not pay much attention to these issues at the time (Callaghan 1990; Mazur & Lee 1993).¹⁶³

In addition to warnings of global catastrophe from experts, in the 1970s more immediate concerns about public safety were provoked in the US by a growing awareness of hazardous practices within workplaces as well as by a series of high-profile environmentally damaging accidents. Examples of environmental issues that raised concerns included Karen Silkwood's 1974 disclosure of the dangers that workers were exposed to at the Kerr-McGee plutonium plant in Oklahoma, the accident at the Three Mile Island nuclear power station in 1979, and the disclosure in the same year that homes and schools in a US residential suburb, Love Canal, were built on contaminated soil (Sale 1993).¹⁶⁴ The weakness of environmental legislation and of the enforcement powers granted to environmental agencies meant that the risks to human health posed by these sorts of business practices were not effectively addressed. Environmental damage and the associated risks to human health were, in fact, compounded in the 1980s under the Reagan Administration's neoliberalising policy agenda that included increasing offshore drilling, expanding timber cutting, opening up wilderness areas to oil and gas leases, and selling federal lands to private interests (Sale 1993). What Sale (1993) refers to as 'the Reagan reaction' downplayed existing environmental regulations and resisted adopting new ones, and the Reagan Administration used tactics such as appointing individuals sympathetic to business as heads of environmental departments and agencies, cutting these

¹⁶³ The issue of mass extinction events attracted much public interest in the 1980s; however, Mazur and Lee (1993, p. 703) note that this was not because of the threats to plants and animals posed by the loss of rainforests, but because of the interest in dinosaurs. Public awareness and concerns about damage to tropical forests came later in the decade, when satellite images "showing perhaps 100, 000 fires" burning in the Amazon attracted widespread publicity as well as the interests of various celebrities who "took up the cause of the tropical forest and its inhabitants, adding enormously to the publicity" (Mazur & Lee 1993, pp. 705 – 706).

¹⁶⁴ Karen Silkwood's mysterious death received extensive media coverage, and the circumstances leading up to her death were further popularized with the 1983 screening of the Academy Award-nominated film, *Silkwood*.

agencies' budgets and, if all other measures failed, simply refusing to enforce legislated environmental protections.¹⁶⁵

The institutionalised Washington-based ENGOs reacted to the Reagan administration's policies rolling back the gains of environmental movement largely by accommodating them, effectively settling for "crumbs today in hopes of bread tomorrow" (Sale 1993, p. 56; see also Thomson 2017 and Woodhouse 2008).¹⁶⁶ In response to government inaction and to what was perceived by many as the co-optation of the 'environmental majors,' some environmentalists turned away from tactics such as lobbying through official channels that had achieved so little, and various forms of 'radical environmentalism' advocated the need for fundamental change in order to protect the environment (Sale 1993). The majority of the smaller grassroots groups that emerged in the 1980s were, however, not radical: they were organised by members of local communities in order to address specific local issues.¹⁶⁷ Grassroots environmental campaigns were led by locals who would have to live with the consequences of decisions made by authorities working within

¹⁶⁵ Donald Trump's administration (commencing in 2017) has adopted similar strategies (Bomberg 2017): Trump has appointed anti-environmentalist Scott Pruitt, who has close ties to the fossil fuel industry and sued the EPA several times when he was attorney general of Oklahoma, as head of the EPA and Pruitt is now supervising the withdrawal and postponement of environmental regulations such as that preventing mining companies from dumping toxic waste into streams and stricter pollution standards designed to reduce toxic emissions from power stations (Milman 2017c). The institutionalized ENGOs have been unable to prevent these developments, thus vindicating critiques of the tactics of accommodation adopted by this section of the environmental movement in the 1980s and 1990s.

¹⁶⁶ Having established offices in Washington during the 1970s in order to lobby the government more effectively, the larger ENGOs had become increasingly bureaucratised, professionalised, and institutionalised, identifying more closely with official policymakers than with the issues faced by organised labour and poor urban communities (Sale 1993). Adopting a 'realist' position, the large ENGOs accepted "the inviolability of economic growth" and acquiesced in providing support for weak and ineffective environmental legislation passed through the US Congress. Cisneros (2015) analyses six concrete examples to demonstrate the weakness and ineffectiveness of both federal and state environmental legislation in the US, and argues that this is a structural problem because such laws "...are grounded on market principles and consistently concede to capitalism."

¹⁶⁷ According to Sale (1993, p. 32), increasing concerns about the health risks posed by toxic wastes that were the by-products of economic activities led to an exponential growth of both national and grassroots US environmental organisations in the 1970s, when their numbers rose "from perhaps several hundred as the decade began to an estimated 3,000 at its end."

“bureaucratic hierarchies whose economic interests tend to side with industry” (Ford 2003, pp. 125–126). According to Sale (1993, p. 59):

Minority groups of all kinds and many blue-collar neighborhoods were drawn to environmental activism out of some local need – particularly because they were often targets of undesirable and dangerous projects that affluent communities resisted – whereas the majors were made up largely of white and more affluent staffs and constituencies.

Grassroots struggles around the location of toxic waste dumps in particular led to articulations of a new form of environmentalism around the notion of ‘environmental justice’ in the US (Ford 2003). One such campaign that has been studied and written about extensively is that conducted in 1982 by a primarily African-American community in Warren County, where the state of North Carolina planned to build a toxic waste dump (Agyeman, Schlosberg, Craven & Matthews 2016; McGurty 1997; Mohai, Pellow & Roberts 2009; Schlosberg & Collins 2014). The significance of this grassroots campaign to prevent the construction of the waste facility lies in how it facilitated alliances between grassroots organisers, civil rights activists, black political leaders, and environmentalists and became the symbol (but not the beginning) of the environmental justice movement (Schlosberg & Collins 2014).¹⁶⁸ It is not surprising that many US grassroots environmental struggles found inspiration in the civil rights movement given that it was predominantly poor African-American communities that were affected by pollution and hazardous waste; arising within very different contexts, Australian urban environmental campaigns of the 1970s drew on different traditions.

Australian social movements were generally very active during the 1970s; they had helped elect Whitlam’s Labor Party, which Hutton and Connors (1999, p. 127) refer to as “the most reformist federal government in Australian history.” This wider political context of left-wing traditions and activism “helped establish the picket, the

¹⁶⁸ Like the argument presented by Meyer and Rohlinger (2012) against resorting to ‘immaculate conception’ stories to explain the origins of social movements, Schlosberg and Collins (2014) caution that interpretations identifying the Warren County incident as the ‘birth’ of the environmental justice movement are simplistic and historically incorrect; race-based movements and civil society groups concerned about the effects of pollution on poor urban communities had a long history prior to the Warren County events.

blockade, the rally, and other confrontational activities as integral parts of green movement tradition and mythology” in Australia, and also presented opportunities for forging links between the environmental movement and sections of organised labour (Hutton & Connors 1999, p. 125).¹⁶⁹ The two major campaigns inspiring the Australian environmental movement in this period were the 1971-1975 ‘Green Bans movement’ in Sydney and other Australian cities, and the 1975 – 1984 campaigns opposing uranium mining. There were also bitter struggles (as there continue to be today) against ‘the politically powerful resource industries’ to conserve ecologically sensitive areas: to “stop sand-mining on Fraser Island, to protect the NSW rainforests from logging, to prevent the damming of the Franklin River, and to protect the whole of the south-west Tasmanian wilderness” (Hutton & Connors 1999, p. 127). But it was the urban struggle, the ‘Green Bans movement,’ that promised to unite different (and traditionally perceived to be *antagonistic*) social forces to fight against the changes being wrought by the dominant classes in the advanced capitalist economies during the 1970s and early 1980s (Hutton & Connors 1999).¹⁷⁰ The global neoliberalisation project took the form of “an aggressive industrialism, based on resource-extraction industries and aided by powerful politicians and compliant bureaucracies” in Australia (Hutton & Connors 1999, p. 128).

¹⁶⁹ Hutton and Connors (1999, p. 125) draw comparisons between the Australian and European movements in this respect: “In West Germany, in particular, the green movement recruited heavily from amongst urban Leftists who were disenchanted by the centrism of the social democrats and the dogmatism of the communists.” While Hutton and Connors (1999, pp. 125 – 126) point out that the European movements were more ‘left’ than the Australian environmental movement, they cite Jan Pakulski’s observation that both movements were characterised by: “a proliferation of groups and bodies involved in protest activities; a thematic extension of protests on a broad range of issues; a globalisation of concerns from local-specific to general and universal; a coalescence of protest actions into multi-issues events that involved many different associations and groups; growing contacts, co-operation and co-ordination between various movement bodies; and the emergence of leading personalities and exemplary figures at the extra-local, national level.”

¹⁷⁰ As McCulloch (2005) points out, workers and environmentalists more frequently have antagonistic rather than cooperative relationships; however, this antagonism (which is sometimes encouraged by business and government representatives) can be resisted if one recognises it for what it is: a ‘divide and rule’ tactic. As is discussed in greater detail in Chapter 8, many social movement activists – including ecosocialists – are trying to promote the red/green alliances that are so crucial for building a strong climate justice movement in order to address the global warming and broader environmental crises in socially just ways.

In addition to the environmental damage and destruction of communities in rural areas, the restructuring of the Australian economy during this period had widespread socially damaging consequences in urban centres, where agents of powerful financial and entrepreneurial capital demolished historic buildings and displaced the people living in inner-city working-class neighbourhoods to make way for 'concrete and glass towers' (Hutton and Connors 1999, p. 128).¹⁷¹ The builders employed to do the demolition and construction work were members of the militant New South Wales Builders Labourers Federation (BLF), a trade union which subscribed to the principle of 'the social responsibility of labour' and set a world precedent with what came to be known as the Green Bans movement when it joined various grassroots campaigns and refused to work on environmentally and socially damaging projects. Burgmann (2008), summarises the aims and activities of the Green Bans movement as follows:

The green bans were of three main kinds: to defend open spaces from various kinds of development; to protect existing housing stock from demolition to make way for freeways or high-rise development; and to preserve older-style buildings from replacement by office-blocks or shopping precincts.

(Burgmann 2008, p. 65)

The Green Bans movement succeeded in preventing many environmentally and socially damaging development projects, with its enduring legacy evident in the fact that Sydney's popular Centennial Park and cultural institutions such as Theatre Royal can still be enjoyed by residents and visitors to the city (CFMEU 2011; Cross Art Projects 2011; Hutton & Connors 1999). However, a combination of sustained opposition from an alliance of government, business and right-wing union leaders, aided by factionalism within the BLF itself, put a stop to its activities and resulted in the BLF's deregistration in 1975 (Burgmann 2008; Hutton & Connors 1999; Piccini

¹⁷¹ This process is ongoing in all the advanced capitalist economies (Harvey 2005), and is generally referred to as 'gentrification' (Hodkinson 2012). Smith (1982, p. 139) defines gentrification as "the process by which working class residential neighborhoods are rehabilitated by middle class homebuyers, landlords, and professional developers." Smith argues that gentrification "is part of a larger class strategy to restructure the economy" with effects that are detrimental to the working class (Smith 1982, p. 153).

2016).¹⁷² Despite this defeat, organised labour continued to work with environmentalists in other contexts, playing a crucial role in the anti-nuclear campaign that FoE initiated in 1975. According to Hutton and Connors (1999, pp. 139 – 140), ‘left-wing unions’ such as the Seaman’s Union of Australia, the Waterside Workers Federation, the Australian Railways Union, and the Electrical Trades Union took the lead inside the union movement to work with environmentalists in opposing uranium mining. Despite a persistent and hard-fought campaign against the nuclear industry by a coalition of concerned citizens, many rank-and-file members of organised labour, and the Aboriginal people whose land in the Northern Territory would be the site of the proposed Ranger uranium mine, the battle was lost and an agreement authorising the mine was signed in 1978 (Hutton & Connors 1999, pp. 141 -143). It was Bob Hawke, then president of the Australian Council of Trade Unions (and Labor Prime Minister between 1983 and 1991), who led the ‘pro-uranium forces’ within the union movement (Hutton & Connors 1999), so the current bipartisanship within formal Australian politics favouring business interests over both environmental and workers’ interests is not surprising: it was already evident in this campaign’s defeat.¹⁷³

As noted earlier, some US environmentalists attributed similar environmental campaign defeats to the co-optation of the mainstream environmental movement and, breaking ties with this mainstream movement, they started building a more radical stream of environmentalism in the 1980s. Like the community grassroots movements discussed previously, the radical environmental groups were also characterised by decentralisation; however, unlike the community grassroots groups, many of the leaders of radical environmentalism had a history of political activism within the 1960s social movements as well as a deep sense of disillusionment from having worked within the mainstream environmental movements (Sale 1993). Directly opposing what they described as the co-optation

¹⁷² Meredith and Verity Burgmann (1998) provide a detailed account of the history of the NSW BLF and the Green Bans movement.

¹⁷³ It is a *Labor* state government, under the leadership of Annastacia Palaszczuk, that has recently approved environmentally damaging mining projects such as the Carmichael coalmine in Queensland (Ritter 2017).

and reformism of mainstream ENGOs, radical environmentalists were united by “an underlying criticism of the dominant anthropocentric Western view of the world and a feeling that the transition to ecological or biocentric values had to be made with all possible speed, with active and dramatic prodding if necessary” (Sale 1993, p. 62). Rooted in an understanding of the ‘true interdependence of species and their habitats’, radical environmentalists “demanded a profound change in the values and beliefs of industrial society from the bottom up” (Sale 1993, p. 62).¹⁷⁴ According to Sale (1993, p. 69), “[b]y the end of the Reagan presidency in 1989, and in defiance of the Reagan Reaction, the environmental movement in all its guises was stronger than it had ever been.”

The 1990s heralded what Sale identifies as the beginning of the fourth period in the development of the modern US environmental movement. In this phase, many of the major US ENGOs (such as the National Defense Fund, Nature Conservancy, World Resources Institute, and WWF) had clearly adopted ‘third-wave environmentalism’ strategies, working “with the movement’s traditional enemies, corporate polluters and extractors, to achieve [reforms] by cooperation and

¹⁷⁴ Sale (1993, pp. 62 - 65) identifies ‘four overlapping tendencies’ among the various expressions of this ‘new radicalism’: bioregionalism, deep ecology, ecofeminism, and the Gaia hypothesis. Bioregionalists seek to create ‘natural ecological communities’ by demarcating the territorial boundaries of human settlements according to topographical and biotic features of the natural environment; they promote decentralised government within each bioregion in order to facilitate regional diversity as opposed to current centralised political systems that facilitate monocultures. Deep ecologists, represented by groups such as Earth First!, argue that all species have an equal ‘intrinsic value’ and right to exist, and they identify the failure of ‘industrial society’ “to achieve a harmonious, spiritual relationship with nature” as the main cause of the environmental crises; they focus on preserving wilderness areas and limiting population growth. Blending ‘sixties-style feminism with eighties-style ecology’, ecofeminists argue that patriarchy is responsible for the domination and exploitation of both women and nature. James Lovelock’s ‘Gaia hypothesis’ suggested that the earth should be understood as a single self-regulating system whereby living organisms interact with the atmosphere and hydrosphere as part of ecosystems which, in all their complex interactions, maintain and perpetuate conditions conducive to life. While the Gaia theory has attracted much criticism from the scientific community, some environmentalists interpreted it to be similar to the beliefs informing the ‘model’ ecological practices of early tribal peoples who thought of the earth as a single living being and believed that it was their responsibility to ‘ensure its careful, productive existence.’ Refer also to Sessions (1987) and Devall (2001) for overviews of the origins, evolution, and key tenets of the deep ecology movement; and to Taylor (2008) for a concise overview of the ideologies informing radical environmentalism.

regulation” (Sale 1993, p. 83).¹⁷⁵ While acknowledging the mainstream US environmental movement’s achievements in embedding environmentalism ‘in American life’ by the early 1990s, Sale (1993, pp. 96 - 106) argues that its future effectiveness will depend on whether it pursues a reformist path emphasising scientific, technological, and corporate-led market-based solutions or a more radical path aimed at developing public understanding of the system that must be changed in order to protect the environment – a message that is currently echoed and amplified within the climate movement (as discussed in more detail below and in Chapter 8).

Writing in the early 1990s, Sale concedes that the ‘system change’ path will not be easy, and is “made all the more difficult by the urgency of the time” (Sale 1993, p. 106). The urgency that Sale refers to has intensified since scientists’ concerns about global warming initially started filtering through to the public through media reports such as those about Hansen’s 1988 congressional testimony and the publication of books such as Bill McKibbens’ *The End of Nature* (which was published in 1989).¹⁷⁶ Given the growing publicity about anthropogenic global warming, it is not surprising that some environmental groups in the advanced capitalist economies turned their attention to this issue towards the end of the 1980s and started collaborating in their attempts to engage with the formal institutions established to address it. The current climate movement can thus be seen as having its ‘pre-history’ in the 1980s, with US environmental majors and a new coalition of NGOs, the Climate Action Network (CAN), attending the UN’s climate change conferences. As will be discussed below, however, the climate movement has evolved and changed in important ways in response to its struggles and defeats in the past twenty-two years of UNFCCC

¹⁷⁵ ‘Third-wave environmentalism’ during the first Bush Administration’s years involved ‘legal, electoral, and legislative’ tactics, although some ENGOs (such as the Environmental Defense Fund) rejected litigation as being ‘overly confrontational’ (Sale 1993, p. 88). The ‘appeasement’ strategies’ achievements were both limited and temporary, and Sale (1993, p. 96) quotes environmentalist Jose Lutzenberger’s ‘sober wisdom’ on this issue: “In the environmental movement, our defeats are always final, our victories always provisional. What you save today can still be destroyed tomorrow, don’t you see?”

¹⁷⁶ McKibben’s *The End of Nature* was initially published as a serial in *The New Yorker* and is thought to be the first book about global warming to target a general audience (Baer 2014, p. 222).

negotiations, and the first decade of the twenty-first century witnessed the birth of Climate Justice Now! (*CJN!*), a rival network encompassing climate activists and NGOs that disagree with many CAN positions.

Western environmental NGOs take up the issue of global warming and climate change

While major environmental NGOs such as Greenpeace, Friends of the Earth International (FoE-I), the WWF and the Environmental Defense Fund (EDF) started paying attention to the issue of global warming from the early days of international climate change discussions in the 1980s and 1990s (Agrawala 1999; Betsill 2002; CAN 2014), this was in addition to their other campaigns. Several analysts claim that recent years have witnessed the emergence of a distinct ‘climate movement’ comprised of a heterogeneous collection of groups and individuals focusing their activities on the issue of climate change (for example, refer to Garrelts & Dietz 2014; Guldbrandsen & Andresen 2004; Moser 2007).

Garrelts and Dietz (2014, pp. 2 - 7) justify the claim that a distinct climate movement has emerged by arguing that CSOs and activists concerned about climate change meet three of the four criteria of ‘standard definitions of social movements’: (1) having a shared aim (to avert climate change); (2) using protest (as opposed to lobbying and advocacy) as a means of trying to bring about the necessary change to avert climate change; and (3) constituting a group of actors that has persisted over time.¹⁷⁷ On the other hand, they point out that actors within the field of climate change politics do not meet the fourth criterion of having a shared identity, and they summarise analysts’ arguments that the climate movement is divided along at least four lines: nationality, types of actors, age and gender, and what can be categorised as ‘ideology’ (Garrelts & Dietz 2014, pp. 2-3).¹⁷⁸ It should also be noted that the

¹⁷⁷ Quoting Rucht (1994), Garrelts and Dietz (2014, p. 6) define a social movement as “an action system, formed for a certain period of time and based on collective identity, of mobilized networks of groups and organizations which aim to bring about, prevent, or reverse social change by means of protest – if necessary, violent protest.”

¹⁷⁸ ‘Types of actors’ refers to distinctions between what Garrelts and Dietz (2014, p. 3) refer to as ‘traditional nongovernmental organizations’ such as Greenpeace and the WWF and grassroots groups, state officials, scientific institutions and scientists, and sub-national actors such as cities, municipalities, and local authorities. They also point to the

second criterion involving the deployment of common tactics within the climate movement is not always met: many NGOs (for example, WWF, World Resources Institute, and EDF) continue to centre their efforts on lobbying, advocacy work, petitions, and collaborations with governments and industry rather than on the direct action tactics (such as protests and blockades) favoured by the more radical groups and social movement coalitions (Bedall & Görg 2014; Brunnengräber 2014; della Porta & Parks 2014; Dietz 2014a, 2014b; Seabrooke & Wigan 2015; Steger, Goodman & Wilson 2013). Nevertheless, Garrelts and Dietz's description of the climate movement as "a loose, but nonetheless highly active umbrella structure which is supported, shaped, and used by a multiplicity of civil society actors who are active in climate politics" is convincing given that social movements are defined as "complex, in many cases decentralized networks, whose members act in solidarity with each other, have very strong convictions, and who, in many cases, are normatively or ideologically motivate[d] in their struggle for shared aims" (Garrelts & Dietz 2014, p. 7).

Having established that there is, indeed, a distinct social movement that can be broadly categorised as a 'climate movement,' understanding the location and role of ecosocialists within this movement entails understanding its composition and identifying the lines along which divisions within it occur. This is not an easy task as the climate movement consists of a bewilderingly diverse, overlapping, dynamic and fluid variety of actors that include individuals, CSOs, SMOs and networks that often overlap and defy categorisation into separate, strictly defined and stable groupings.¹⁷⁹ The difficulties in mapping the climate movement are evident, for

framing of climate change politics by some activists as a 'generational clash', and as a gender issue by activists who maintain that climate change will disproportionately affect women (Garrelts & Deitz 2014, p. 3).

¹⁷⁹ As Dietz and Garrelts (2014, p. 2) note, "The movement is made up of hundreds of organizations, several thousand activists, and large numbers of sympathisers and supporters..." who agree in their demand that GHG emissions be reduced. The dynamic and unstable nature of the climate movement is evident in how splits sometimes occur within it, with these splits sometimes even dividing the members of other 'umbrella' NGOs that are members of CAN-I. FoE is one example of such a split, with FoE International and some other country FoE organisations leaving CAN in the late 2000s (CAN 2014) while others (such as FoE Australia and FoE Canada) are still members (CAN-I n.d.). Refer to Dombrowski (2010) for a brief overview of the ideological

instance, if one considers that the NGOs active in the climate movement represent a broad spectrum of interests and include both large ENGOs and smaller grassroots environmental groups, development and human rights NGOs, indigenous peoples' organisations, sections of organised labour, women's groups, youth groups, groups representing the interests of small-scale peasant farmers and fisherpeople, and student groups (Cabré 2011; Wahlström, Wennerhag & Rootes 2013).¹⁸⁰ Given the diversity of climate movement actors, it is not surprising that analysts have traced its roots to a variety of other SMOs, such as the pre-existing environmental movement, the environmental justice movement, and the Global Justice Movement (GJM) in the Global North, as well as to indigenous peoples and small-scale subsistence farmers and fisherpeople (predominantly, but not exclusively, in the Global South) who are trying to protect their traditional lands and sources of reproduction that are being threatened as global capitalist relations of production expand.

In view of the insurmountable challenges faced by those attempting to map the networks of component actors within the climate movement in detail, many analysts find it useful to at least distinguish between its two major 'wings' or 'streams': the more moderate wing (which I refer to as the 'climate action' wing) working towards reforming global capitalism by calling for the decarbonisation of the global economy, and the system-critical 'radical climate justice' wing that sees climate change as one of many manifestations of a much wider crisis that can only be resolved by fundamental system change.¹⁸¹ An awareness of the differences between these two

underpinnings of FoE International's decision to withdraw from CAN-I, and the way in which this withdrawal demonstrates the perhaps unavoidable contradiction between the interests of vulnerable people at 'local' levels and the interests of global elites that take priority in official 'global level' meetings and negotiations.

¹⁸⁰ The diversity of interests that climate movement participants represent is too extensive to describe in detail, and this is far from an exhaustive list of the range of groups involved in the movement. The impossibility of neatly categorizing the different actors within the climate movement is also evident in Carter's (2001, p. 320) observation that "[t]he range of groups in attendance has also expanded beyond environmental groups from industrialized countries to include a greater number of developing-country NGOs, student groups, religious groups, local and state councils, and indigenous peoples' groups. These efforts to share information, influence the media and build networks continue beyond the negotiating halls of high-level COPs, with numerous new climate-related websites, reports and studies emerging nearly every month."

¹⁸¹ Different analysts use a variety of criteria to disaggregate the climate movement for analytical purposes, and the terminology they invent also varies (sometimes

extremes and, more importantly, of the nuanced differences in the common ground they seemingly share, is crucial if one is to understand the role of ecosocialist theorists and activists within the broader climate movement. Also important in understanding the role of ecosocialists within the climate movement is being aware of the very messy ‘in-between’ space which many rank-and-file movement actors (as opposed to the leadership) occupy (Wahlström, Wennerhag & Rootes 2013) and which represents a continuum between the two extreme wings. Given these prerequisites, I argue that the ideological division is the most crucial of the four lines of division identified by Garrelts and Dietz (2014). Despite participating in the same mass protest actions such as the 2014 and 2015 People’s Climate Marches, in this dissertation the reformist climate action and the radical climate justice extremes are treated as *analytically* distinct and fundamentally *ideologically opposed* wings of the climate movement.¹⁸² I emphasise the ideological distinction because it provides a

confusingly, as different theorists sometimes use the same term as others, but define them in different ways). Steger, Goodman and Wilson (2013), for instance, seem to use a criterion that hinges on the relative access to power of different groups engaged in the climate negotiation process because the two extremes they identify fall broadly into governmental and intergovernmental actors in one category and actors within civil society’s climate movement in another category. They disaggregate these extremes into additional sub-categories, identifying two reform-oriented perspectives that dominate formal climate negotiations as ‘market globalism’ and ‘elite Third-World developmentalism,’ both of which aim to “protect vested interests and maximize economic growth and industrialism.” They also distinguish between three positions in the informal climate movement located within civil society: ‘climate action,’ ‘climate autonomy,’ and ‘climate justice,’ providing the disclaimer that several of the groups they included in their study “engaged with more than one of these approaches” (Steger, Goodman & Wilson 2013, pp. 127 – 128). This disclaimer constitutes another illustration of the difficulties of analytically disentangling the continuum of positions that the climate movement’s component actors represent. Using climate movement participants’ ‘prognostic framing’ (that is, what solutions they propose for addressing global warming) rather than relative power as their criterion, Wahlström, Wennerhag and Rootes (2013, p. 102, p. 105) categorise climate movement actors into those who support climate justice and call for ‘systemic changes involving global justice,’ those who call for individual ‘behavioural changes’ (which may be either reformist or relate to social movement ‘life politics’), and reformists who support policy changes within existing institutions.

¹⁸² The importance of this particular line of division is acknowledged by Garrelts and Dietz (2014, p. 7), who point out that there are serious disagreements between groups and actors who are supportive (and sometimes actively engaged in facilitating) “the concrete implementation of existing climate policy instruments” and groups and actors who reject all such compromises. Similar analytical distinctions are also made by other analysts, some of whom even discuss the environmental and climate movements by referring explicitly to Robert Cox’s important distinction between problem solving and

useful analytical tool for discussing the key debates within the climate movement, where *climate action* activists and *radical climate justice* activists (with the latter including ecosocialists) are engaged in what Gramsci refers to as a 'war of position' in contesting their ideas within the terrain of the political arena of 'civil society'.¹⁸³

The 'war of position' within the climate movement

As discussed in Chapter 3, the ideological perspective that informs one's understanding of the world has a profound influence on the identifications of the causes of, and potential solutions to, complex challenges such as global warming and the resulting climate change. Climate change is a particularly politicised issue, as Bedall and Görg (2014), among others (for example, Steger, Goodman & Wilson 2013), point out, because:

Climate change is embedded in complex societal conflicts... [which] are rooted in *divergent interests in society*. They have to do, for example, with the dependence of certain industrial sectors on the use of fossil fuels and with the greenhouse gas emissions associated with that use. They also have to do with the situation of social groups who are particularly hard hit by the impacts of climate change. Yet neither of these facets – more narrowly defined economic interests on the one hand and social vulnerabilities on the other – exists independently of its interpretation and construction through language. They have to be created *discursively* and become established and accepted as more or less dominant interpretations.

(Bedall & Görg 2014, p. 44; emphasis in original)

The war of position between reformist and critical positions is thus largely fought through the discursive debates vis-à-vis the causes of (and hence possible solutions to) climate change between different actors within the broad climate movement (de Lucia 2014). One way of understanding this ideological difference between the moderate and radical wings of the climate movement is to refer to neo-Gramscian concepts that distinguish between problem solving and critical approaches (as discussed in Chapter 3).

critical approaches as well as to the Gramscian notion of hegemony (for example, refer to Elliott 2004, pp. 224 – 226 and de Lucia 2009, 2014).

¹⁸³ This ideological division is also evident in tactics and actions; for example, on the day after the 2014 People's Climate March, the radical wing of the climate justice movement organised and participated in a much smaller but more militant 'breakaway Flood Wall Street action,' with the aim of drawing attention to the links between 'Wall Street' (representing capitalism) and the climate crisis (Giacomini & Turner 2015).

The moderate climate action movement identifies the cause of climate change in largely scientific and politically ‘sanitised’ technical terms; for example, they focus almost exclusively on how increases in GHG emissions in the atmosphere are changing the Earth’s energy balance (Bedell & Görg 2014; de Lucia 2014; Tokar 2014). This approach treats climate change as a specific, discrete, and often technical ‘silo issue’ and leads to the conclusion that it can be addressed in isolation by ‘problem solving’ and tweaking global capitalism so that it is no longer powered by fossil fuels. This leads climate action movement supporters to try to solve the problem of climate change by lobbying governments and policymakers to implement reforms to the current system. The solutions they propose include the adoption of renewable technologies for energy production and the development and implementation of a mix of regulatory policies closely aligned with ‘market instruments’ to achieve a transition from a global capitalist economy based on the use of fossil fuels to a ‘green’ global capitalist economy based on renewable energy. Many supporters of climate action are therefore generally committed “to a paradigm of *ecological modernization* according to which environmental problems can be resolved politically, economically, and technologically within the context of real existing institutions and power structures. Importantly, adherents of the modernization camp also believe that their aims are compatible with continuing economic growth” (Garrelts and Dietz 2014, p. 2).

While agreeing with the moderate climate action movement’s identification of the physical mechanisms and material manifestations of anthropogenic global warming, the radical climate justice movement goes much further in its analyses of both the nature of the problem and its causes and consequences, pointing to relations of domination in all their forms (along the lines of class, sex, race, and human attempts to dominate nature) as the primary causes of a variety of interconnected environmental, economic, and socio-political problems (Bedell & Görg 2014; Giacomini & Turner 2015).¹⁸⁴ Actors within the radical climate justice movement

¹⁸⁴ De Lucia (2014) raises the crucial point that even radical climate justice actors find it difficult to avoid being drawn into hegemonic discourses of ‘parts per million’ and technological solutions, thus diverting their attention and presenting dangers of *trasformismo* (as discussed in Chapter 3). He also draws attention to the way in which

thus use a critical perspective that leads to a very complex understanding of climate change as only one challenge to humanity that is evolving within the context of an ever-expanding global capitalist system in which a small global elite exploits both nature and people in order to increase its economic wealth and political power (Burgmann & Baer 2012; Tanuro 2013). From the perspective of radical climate justice movement actors, climate change is thus only one *symptom* (albeit an extremely important and pressing symptom) of the widespread ecological destruction and social harms that results from the pervasive relations of domination that characterise global capitalism (Bedall & Görg 2014; Steger, Goodman & Wilson 2013).¹⁸⁵ Given their analyses of the nature and causes of the multiple crises humanity currently faces, radical climate justice movement actors argue that the solution to these interconnected problems requires fundamental ‘system change’.¹⁸⁶

the concept ‘climate justice’ is interpreted differently by actors within the climate movement; having always had a moderate, institutional meaning as enshrined in Article 3 of the UNFCCC, it was more extensively ‘mainstreamed’ at COP-15 so that it now risks being an ‘empty signifier.’ As such, ‘climate justice’ is “a contested and ambiguously under-determined concept, ... open to hegemonic appropriation and vulnerable to the mechanics of *trasformismo*” (de Lucia 2014, p. 67). As Smith, Plummer & Hughes (2017, p. 5) point out, the mechanics of *trasformismo* involve not only the assimilation and co-optation of movement organisations themselves, but also their ‘discourses and agendas,’ thereby “obscuring the boundaries between social movements and actors that perpetuate the status quo.” To avoid confusion, I have decided to resort to the clumsy (but hopefully more accurate) label ‘*radical* climate justice’ wing in this thesis.

¹⁸⁵ Collins (2015) identifies a different kind of radicalism in those groups within the climate movement who support ‘deep ecology’ positions and who argue that “the survival of the planet trumps all other concerns.” The deep ecology position is not discussed in any detail in this dissertation because it is not a widely-held view within either of the major wings of the climate movement and is also antithetical to ecosocialist thinking, which aims to re-establish ecological balance in the Earth System so that humanity can thrive, along with other animals and life forms, by drawing sustainably on the sources of all wealth (unalienated labour and nature, as discussed in Chapter 7).

¹⁸⁶ Some climate activists are much more forthcoming than others about what sort of post-capitalist future they envisage as possible or desirable, which is another instance of the ‘messiness’ of real life that defies containing either ideas or people into the convenient, neat categories that would expedite analysis; for example, widely-respected climate activist Naomi Klein has been critiqued on this issue by some climate justice movement actors but others, with a more nuanced understanding of strategy and tactics, defend her against these critiques (for example, refer to Smith & Foster 2017). This debate performs a vital function (as do all such debates within the climate movement, as long as they are conducted in ways that are respectful) by contributing to a deeper understanding of the issues by all parties concerned and by others following it and thinking about the issues raised, as discussed in more detail in Chapter 8.

A comparison of how climate action supporters and how radical climate justice activists interpret phrases such as 'connecting the dots' demonstrates the different positions adopted by the two wings of the climate movement. The 2012 climate action movement's 350.org-initiated campaign aimed to 'connect the dots' between climate change and the increasing number of 'extreme' weather events around the world (McKibben 2012a), thereby narrowly focusing on the physical and technical aspects of anthropogenic GHG emissions and the scientific and technical aspects of their physical effects. Climate justice activists argue that a genuine understanding of the global warming crisis entails 'connecting the dots' between: the scientific evidence of anthropogenic climate change and other anthropogenic threats to the Earth's biosphere; the social, economic and political systems created by humans (and therefore subject to being changed by humans) causing the current crises; and the ethical implications of different courses of action. As discussed in more detail in Chapters 7 and 8, ecosocialist analyses and arguments are well equipped to make strong contributions to joining the 'dots' in this war of position, thereby building on prevailing 'common sense' understandings (which can be partial, incomplete, or somewhat incoherent) of the causes and dangers of anthropogenic global warming in order to promote what Gramsci refers to as a more coherent and developed 'good sense' of these causes and, very importantly, of the implications of different proposed solutions for different groups of people. In contrast to moderate climate action movement concerns about the physical and technical aspects of climate change, ecosocialist analyses draw attention to the ethical dimensions of the issue.

By consistently linking climate change and social justice issues, ecosocialist analyses emphasise that there is much at stake in who succeeds in winning this ideological debate: it is not overstating the case that the lives of many people depend on the outcome of this war of position and its success in building a powerful counter-hegemonic bloc to shift the debate within the climate movement from what radical climate justice activists see as dangerous, narrow problem-solving 'false solutions' and instead turn its energies towards working on 'system change': creating a more

truly sustainable society with different values.¹⁸⁷ The division between problem-solving and critical approaches within the larger climate movement is exemplified by its two largest umbrella organisations, Climate Action Network International (CAN-I) and *CJN!*, which are networks of a variety of NGOs, CSOs and social movements. Ecosocialists align themselves with *CJN!*, and were involved in forming the new coalition when it became clear that CAN-I had started supporting what radical climate justice advocates saw as ‘false solutions’. The events leading to the formation of *CJN!* are discussed after a brief overview of CAN-I.

Climate Action Network International (CAN-I)

Widely acknowledged as the oldest and most popular actor in the climate movement (Duwe 2001; Garrelts 2014; Guldbrandsen & Andresen 2004), CAN-I claims a membership of “over 1100 NGOs in over 120 countries” and describes its mission as being “to promote government and individual action to limit human-induced climate change to ecologically sustainable levels” (CAN-I n.d., viewed 8 January 2017). Originally constituted as the Climate Action Network (CAN) and renamed Climate Action Network International in 2004 (CAN 2014), this umbrella organisation represents the reformist wing of the climate movement and was established as a coalition of NGOs in 1989 “with the central objective of ensuring the 1992 UN Conference on the Environment and Development (UNCED) would implement strong emissions reductions” (Steger, Goodman & Wilson 2013, p. 137).¹⁸⁸

¹⁸⁷ As Connelly (2007) points out, ‘sustainable development’ is a contested concept, and different definitions of ‘sustainability’ and ‘sustainable development’ favour a variety of political projects (see also Brown 2016; Connelly 2007; Hadden & Seybert 2016; Ross 2009). Definitions of sustainable development that locate it within a context of ‘green capitalism’ are sometimes used to support neoliberal governmentality while other definitions support radical socialist egalitarianism and yet others support a range of positions in between.

¹⁸⁸ NGO participation in UN events pre-dated UNCED, however. Willetts (1996, pp. 57, 67-68) identifies the 1972 Stockholm Conference (the UNCHE) as a ‘turning-point’ with respect to NGO participation in UN events, and attributes this largely to the influence of conference Secretary-General, Maurice Strong, who “contributed significantly to overcoming the opposition to participation by NGOs”.

CAN-I has a complex organisational structure, and only some features of its organisation and operations are discussed here.¹⁸⁹ In 2015, CAN-I members were organised into ten regional and eleven national networks (called ‘nodes’), and there were also 16 working groups tasked with formulating the network’s policy positions and briefs on various issues (CAN-I 2016).¹⁹⁰ The policy briefs culminate in CAN-I’s annual policy document (for example, refer to CAN 2015), which is used to support its advocacy of various issues in UNFCCC negotiations (CAN-I 2016). Apart from its ‘insider’ advocacy activities as a registered CSO observer at the COPs (Dombrowski 2010), CAN-I members also contribute in many valuable ways to information dissemination during the official climate change meetings by, for example, providing updates on the progress of the negotiations via their daily newsletter, *ECO*, a practice established in 1990 (CAN 2014; Carpenter 2001).¹⁹¹ Information about the progress of official climate change negotiations and CAN-I activities is also disseminated through its websites, the first of which was established in 1998 (CAN 2014). In addition to its ‘insider’ tactics of working with officials in COPs, CAN-I members also engage in ‘outsider’ tactics like protest marches and other publicity-raising campaign events. The ‘Fossil of the Day’ award, presented to the countries whose representatives have most obstructed official negotiations on any given day,

¹⁸⁹ Refer to the CAN-I website (n.d.), CAN-I key documents (2014, 2015, 2016), Dombrowski (2010) and Duwe (2001) for more detailed descriptions and analyses of CAN-I’s organisational structure and operations.

¹⁹⁰ CAN-I 2015 working group themes included ‘Adaptation and loss & damage’, ‘Legal Issues’, ‘Flexible Mechanisms’, ‘Finance’, and ‘NGO Participation’ (CAN-I 2015).

¹⁹¹ Dellmuth and Tallberg (2017, p. 2) define ‘insider strategies’ as “activities which aim to influence political outcomes through direct interaction with decision-makers” and ‘outsider’ strategies as “activities which aim to influence outcomes by putting pressure on decision-makers through the mobilisation of public opinion.” Guldbrandsen and Andresen (2004) note that ‘a particularly large contingent’ of US-based NGOs use insider tactics. Many NGOs typically use a combination of insider and outsider tactics in pursuit of their aims (Dalmuth & Tallberg 2017; Guldbrandsen & Andresen 2004). While CAN-I does adopt such a dual strategy, the climate justice movement does not. *CJN!* was, in fact, established by a coalition of individuals and groups opposing CAN-I ‘insider’ tactics; it was the outcome of a ‘counter-mobilisation’, which occurs “when issues are politically contentious” (Dellmuth & Tallberg 2017, p. 6). Redistributive demands, such as those the climate justice movement supports, are particularly likely to be “highly politicised because of their transparent implications for costs and benefits” (Dellmuth & Tallberg 2017, p. 6).

demonstrates the humour employed in some CAN-I ‘outsider’ tactics (CAN 2014, 2016).¹⁹²

Steger, Goodman and Wilson (2013, p. 137) describe CAN-I as being initially ‘relatively agnostic’ about how to achieve the GHG emission reductions required to limit anthropogenic global warming, although Bedell and Görg (2014, pp. 48 - 49) comment on how, prior to the adoption of the Kyoto Protocol in 1997, CAN-I’s position statements were critical of market mechanisms such as emission trading schemes (ETS), the CDM, and JI projects because of the potential these had to be ineffective in reducing GHGs as well as their potential to exacerbate social inequalities. Bedell & Görg (2014, p. 49) argue that after the adoption of the Kyoto Protocol, CAN-I’s positions became increasingly aligned with officially-sanctioned policy approaches, and civil society actors under its umbrella came to be “integrally involved in (re-)producing the emerging hegemonic consensus” of turning to the market to solve the climate crisis, thus contributing to the legitimization of solutions that de-emphasise both wider ecological issues and social justice issues (see also CAN 2014 and Steger, Goodman & Wilson 2013). Taking advantage of the disputes between the fossil fuel and renewable energy factions of the transnational capitalist class, CAN-I supports the neoliberalising project of creating a ‘green economy’: while calling for an immediate end to fossil fuel subsidies, it simultaneously urges a transition to a global economy powered by renewable energy by 2050 at the latest and supports a variety of market instruments to facilitate this transition (CAN 2015).

The argument that ‘green capitalism’ constitutes the continuation of the neoliberalisation project (Goodman & Salleh 2013; Kenis & Lievens 2016) is evident in how it is being promoted not only by representatives of emerging renewable technology industries and their allies (like CAN-I), but also by institutions such as the World Bank and the IMF, as well as by other financial institutions working to commodify the natural resources that all life depends on: resources such as water (much of which has already been commodified and privatised), the atmosphere (by

¹⁹² Refer to *Small Window, Bright Light: A history of Climate Action Network* (CAN 2014) for personal accounts of CAN participant experiences, including memorable events such as the ‘Fossil of the Day’ awards.

putting a price on carbon), forests, and soil (Adelman 2015).¹⁹³ While not linking its policies overtly to the neoliberal project of commodifying nature, CAN-I's support for this project is clearly evident in its most current Annual Report (CAN 2016) and annual policy document (CAN 2015), where it insists on the need to accurately monitor, measure and record 'sources and sinks' of GHG emissions. While CAN-I justifies its promotion of robust Monitoring, Reporting and Verification (MRV) procedures in terms of using them to ensure the environmental effectiveness of REDD+ and Land Use, Land Use Change and Forestry (LULUCF) projects (CAN-I 2015), verifiable measurement and accurate record-keeping are also necessary steps in the creation of new commodities that can be traded (Adelman 2015; Newell & Bumpus 2012).¹⁹⁴

CAN-I's support for this expansive neoliberalisation project that aims to marketise the entirety of nature is, perhaps, motivated by 'pragmatic' considerations regarding what CAN-I leaders perceive as realistic and achievable, but it is also at least partially attributable to the narrow, technical focus on GHG emission reductions that prevails as the solution to global warming within the network. Contesting ideas from the smaller and less powerful NGOs from the Global South that are concerned about the economic and social implications of market mechanisms such as REDD+ and LULUCF are marginalised because of the relative power of the large, established North American and Western European NGOs within CAN-I (Bedell & Görg 2014;

¹⁹³ Commodification entails assigning monetary value to an entity so that it can be traded in markets. Schrijver (2016, pp. 1252 – 1253) defines the 'global commons' as "areas and natural resources that are not subject to the national jurisdiction of a particular state but are shared by other states, if not the international community as a whole," and argues that "certain global natural assets, such as the climate system, the air, water, seeds, winds and sunshine, could also be viewed as global commons in view of the vital ecological functions that they perform for the Earth and its population."

¹⁹⁴ Newell and Bumpus (2012) draw attention to the relationship between the seemingly 'technical exercises' of measurement and the 'intricate politics' of commodifying carbon: "Carbon has to be rendered manageable, containable and quantifiable, fungible in value, and commensurate to be tradable as a commodity. What appear as mere technical exercises in measuring, accounting, and verifying emissions are deeply political..." (Newell & Bumpus 2012, p. 55). Bäckstrand & Löwbrand (2006) also provide a comprehensive account of the central role that technocratic activities such as measurement, monitoring and certification play in dominant climate change governance discourses and policies.

Dombrowski 2010; Duwe 2001; Steger, Goodman & Wilson 2013).¹⁹⁵ Some of these larger and well-resourced CAN-I members are known for their promotion of market solutions to climate change; for example, the EDF has a reputation of working ‘relentlessly’ to promote market-based approaches in the climate negotiations and of consistently opposing NGO positions that do not conform to US climate change negotiators’ goals (Guldbrandsen & Andresen 2004; see also Hestres 2015).¹⁹⁶ Other CAN-I members, such as WWF, have even taken an active role in implementing neoliberal market solutions by helping to develop certification instruments such as the ‘Gold Standard,’ a tool designed to assess the alignment of CDM projects and environmental standards (Bedell & Görg 2014; CAN 2014; Headon 2009).¹⁹⁷

The dangers of *trasformismo* and *Passive Revolution*: Questioning the CAN-I position

Radical climate justice advocates argue that CAN-I’s close collaboration with official policymakers and business interests is dangerous because it can lead to the co-option of the climate movement and can also legitimise neoliberal policies while simultaneously foreclosing more socially just solutions to climate change (Bond & Dorsey 2010).¹⁹⁸ In Gramscian terms, the *trasformismo* of CAN-I is evident in how its

¹⁹⁵ CAN-I policy documents frequently mention concerns about social justice issues as encapsulated in concepts such as ‘human rights,’ ‘food security,’ ‘resilience,’ and ‘stakeholder participation’ (with all of these concepts being problematic given that they can be used to signify specific agendas that align with the project to ‘green’ an expanding neoliberal global capitalism). Unlike the stance adopted by the radical climate justice movement, however, social justice and ethical issues are subsidiary to CAN-I’s main concern: the reduction of GHG emissions irrespective of the means used to achieve this end.

¹⁹⁶ According to Guldbrandsen and Andresen (2004, p. 66), “The fact that ED [now EDF] sided with the US on key points has made it somewhat ‘suspicious’ in many green quarters...” and CAN-I temporarily suspended its membership at COP-6 at The Hague in 2000 because it broke ranks with other ENGO majors in their opposition against the adoption of market mechanisms. Despite the suspension, “...it was allowed to attend most CAN meetings and its membership was reinstated later.”

¹⁹⁷ Carpenter (2001) discusses several other examples of industry collaborations and partnerships involving CAN-I NGOs such as the WRI and EDF.

¹⁹⁸ Similar critiques of voluntary certification standards are proposed by academics as well; for example, Bernstein and van der Ven (2017, p. 555) discuss the role of standard setting in the context of ‘best practice’ being used in global governance and caution that “...governance through best practices might be seen as marginalizing more disruptive approaches and reinforcing a problem-solving mentality instead of a system-transforming one.”

support of ‘false solutions’ furthers current attempts by the TCC and its allies to rebuild and strengthen capital’s hegemonic historic bloc by incorporating concerns about climate change, neutralising them, and thereby achieve a ‘revolution from above.’ Through such a passive revolution, neoliberal capitalism can expand by commodifying nature and thereby not only ‘save’ itself from the current accumulation crisis (which has been ongoing since the GFC), but it can also strengthen and expand its power and reach (Goodman & Salleh 2013; Kenis & Lievens 2016).

There is much empirical evidence to justify arguments that close collaborations between NGOs and official government and business interests can lead to *trasformismo*.¹⁹⁹ For example, Dreiling, Lougee and Nakamura (2017) find that most of the established Japanese environmental groups that failed to support the widespread protests against the use of nuclear energy after the 2011 nuclear meltdown at the Fukushima Daiichi power plants are embedded within a constraining state-corporate structure.²⁰⁰ The Japanese environmental organisations that refrained from reacting to the 2011 disaster were often established collaboratively with the state and industry; they not only depend on government funding, they are also ideologically aligned with long-standing official discourses positioning nuclear energy as a green, efficient, and modern solution to global warming (Dreiling, Lougee & Nakamura 2017).²⁰¹ In a different context, Jaffee’s (2012) analysis of changes within the fair trade movement, which started using an authentication label (a form of certification) in 1988, provides another example of

¹⁹⁹ While many social movement studies do not refer to the Gramscian term, *trasformismo*, the concept ‘co-optation’ is similar. Jaffee (2012, p. 99) cites Philip Selznick’s (1948) definition of co-optation as “the process of absorbing new elements into the leadership or policy-determining structure of an organization as a means of averting a threat to its stability or existence.” The dangers of such co-optation are that the social movement is both weakened and, more importantly, that it ultimately fails “to achieve meaningful policy gains” (Jaffee 2012, p. 99).

²⁰⁰ A powerful earthquake followed by a ‘massive tsunami’ in north-eastern Japan on 11 March 2011 damaged the electricity system and the backup generators powering the Fukushima Daiichi (No. 1) nuclear power plant’s cooling systems, which led to the nuclear reactor’s meltdown the next day (Otsuki 2016).

²⁰¹ In 2011 there were over 100 protests against nuclear energy in Japan, and while the number of protests dropped in 2012, the number of participants increased: an estimated 60,000 people participated in the September 2011 protests and 75,000 participated in the September 2012 protests (Dreiling, Lougee & Nakamura 2017).

trasformismo as a result of social movement collaborations with industry.²⁰² Jaffee (2012) demonstrates how the growth of the fair trade certification system since the 1990s, and the ‘mainstreaming’ of fair trade products in an attempt to increase the volume of sales through conventional retail outlets, led to the successful co-optation of elements of the fair trade movement by large multinational retailers (particularly in the US, according to this study). In this case, the dilution of standards to the extent that they no longer present an alternative, socially embedded relationship between producers and consumers is the chief mechanism of this co-optation, and Jaffee argues that this development has wider implications:

On a broader level, the fair trade case demonstrates that private regulation by civil society groups and SMOs – via tools such as certification and standards – is an approach fraught with serious limitations.... Indeed, the fair trade case can be read as a cautionary tale about the limits of voluntary, nonstate regulation, and the risks of social movements embracing the narrower, less accountable realm of the market as the locus of change.

(Jaffee 2012, p. 113)

These examples of *trasformismo* illustrate only one of a repertoire of tactics adopted by elites to ‘neutralize’ antagonistic SMOs; other tactics include limiting non-state actor access to international conferences if they ‘challenge market ideologies or neoliberal ideas’, using legislation to repress ‘non-violent progressive groups’, and stigmatizing and delegitimizing progressive groups in order to limit their influence in the wider community (Smith, Plummer & Hughes 2017, pp. 4 – 6). Many of these tactics were used to disempower the climate movement at COP-15 in Copenhagen in 2009, where the newly formed radical climate justice alliance, *CJN!*, gained prominence as a major actor in the climate movement.²⁰³

²⁰² The Dutch NGO, *Solidaridad*’s, fair trade label was initially used to distinguish the coffee produced by their partner, a Mexican indigenous coffee co-operative, but other brands were later allowed to also use it as long as they met four criteria for ‘fairness’: fair wages for smallholders, prepayment or credit to farmers, additional payment for social development projects, and “long-term trading relationships with democratically organized producer cooperatives or associations” (Jaffee 2012, p. 103).

²⁰³ Much has been written about the very eventful 2009 climate change negotiations at COP-15 in Copenhagen, riddled as they were with various intrigues and subterfuges that led to the ultimate failure of the climate change conference and resulted in a very weak and ineffectual final document, the ‘Copenhagen Accord.’ Government representatives who had been excluded from the secret negotiations refused to adopt this document; instead, the Copenhagen Accord was merely ‘noted’. Refer to Carter, Clegg and Wählin

Climate Justice Now! (CJN!)

Like the efforts to precisely date the emergence of the new environmental movement by identifying a ‘big book’ or a significant event, various analysts have attempted to locate a singular event marking the emergence of the radical climate justice movement. Some of the literature points to COP-13 in Bali in 2007, when a number of NGOs broke away from CAN-I, as the origins of the radical climate justice movement’s manifestation as the *CJN!* (for example, refer to de Lucia 2014, Bond 2014 and Tokar 2014). CAN-I member Hans Verolme also identifies COP-13 in Bali as signalling the split between the moderate and radical wings of the climate movement, and his recollections emphasise the role that social justice issues played in this split:

Equity came to a head in Bali. There was a very large contingent of people from the Third World Network, the FOE network and climate justice community, who very openly started to challenge some of the ‘dinosaurs’ in CAN. That was partly because there was an influx into the climate negotiations of people who had worked on other issues, like trade.²⁰⁴ As a result they were framing the politics of climate change more in terms of trade and development than in environmental terms. There was a serious disagreement about how to assess both the tactics and substance of the negotiations. That battle around equity became very deep and deeply personal because people felt that their personal integrity was being called into question. It led to several organizations leaving CAN.

(CAN 2014, p. 57)

Analysts and commentators also identify several other significant events, such as the first known conference on the theme of ‘climate justice’ at the 2000 alternative people’s climate summit at COP-6 in The Hague (Bond 2014, p. 208; Tokar 2014) and the manifesto outlining twenty-seven *Principles of Climate Justice* developed by fourteen NGOs at the 2002 United Nations World Summit on Sustainable Development in Johannesburg (Steger, Goodman & Wilson 2013). COP-15 in

(2011), Cipler (2015), Fisher (2010), Hadden (2014), Mason and Askins (2013), McGregor (2011), and Wahlström, Wennerhag and Rootes (2013) for accounts about different aspects relevant to COP-15 events and outcomes.

²⁰⁴ According to Steger, Goodman & Wilson (2013, p. 142), the new *CJN!* network also included NGOs and SMOs who had been key actors in the GJM – groups such as *Focus on the Global South*, *La Via Campesina*, the *Transnational Institute*, and *Third World Network*. [This footnote has been added; it was not in the original quotation presented above.]

Copenhagen in 2009 is also widely referred to as significant in the development of the radical climate justice movement (for example, refer to Bedell & Görg 2014, Bond 2014, della Porta & Parks 2014), as is the 2010 *Cochabamba People's Agreement*, a program developed at an alternative climate change summit convened at the invitation of Bolivian president Evo Morales in Cochabamba after the failure of COP-15 (Angus 2016). All these events are important in their own right as instances of climate justice activism and their contributions to the evolution of both the ideology and the strategy and tactics adopted by the radical climate justice network have been extensively analysed.²⁰⁵ However, as Meyer and Rohlinger (2012) caution, the evolution of social movements is complex and occurs over a much longer period than is generally acknowledged in the literature; it should therefore come as no surprise that ideas about climate justice were being discussed widely for many years within the climate movement and the global justice movement before *CJN!* was created as an identifiable radical climate justice network. In this dissertation, rather than trying to identify all the significant events shaping the development of the radical climate justice movement, I focus on its aims and strategies, and on the ideology informing these.

The main ideas defining the radical climate justice movement have been linked to the environmental justice movement of the 1980s discussed earlier in this chapter, a “movement that especially emphasized the racial and class injustices of pollution in the United States” (Bond 2014, p. 208), as well as to the GJM associated with the anti-capitalist protests against the WTO in Seattle in 1999 (Garrelts & Dietz 2014; Steger, Goodman & Wilson 2013; Tokar 2014). According to Tokar (2014), the first published reference to ‘climate justice’ was in the 1999 report, *Greenhouse Gangsters vs. Climate Justice* (TRAC 1999), by a group associated with the GJM. Not only does this document refer to ‘climate justice,’ but it also draws attention to ‘false solutions’ and calls for a ‘just transition’ to a fossil fuel-free economy. With a strong critique of corporate power, and especially of the power of the fossil fuel industry,

²⁰⁵ The *Routledge Handbook of the Climate Change Movement* (Dietz & Garrelts 2014) is an excellent introductory resource, and Steger, Goodman & Wilson (2013) also provide a detailed account of the climate movement’s components and some of the key events in its development.

Greenhouse Gangsters vs Climate Justice identifies ‘technological and market oriented’ solutions such as ETSs, as well as the Kyoto Protocol’s Joint Implementation and CDM mechanisms, as ‘false solutions’, and attempts to set out ‘a platform for Climate Justice’ (TRAC 1999, p. 6 and pp. 23 – 26). The authors of the report argue that the only way to counter the immense power of the fossil fuel corporations and their many corporate, political, and institutional allies is to build a powerful grassroots movement linking social and environmental struggles around the globe. They suggest that climate justice activists join forces with allies such as: alter-globalization activists trying to dismantle the power of corporations and global economic institutions; indigenous people and subsistence farmers in the Global South trying to defend their territories, health and livelihoods against the environmental threats of fossil fuel projects; disadvantaged groups in the Global North trying to defend their communities against toxic pollution; and workers calling for a just transition from a fossil fuel economy.²⁰⁶ These suggestions are reflected in much of the thinking within the current radical climate justice movement, as well as in its operation as a network of grassroots groups working locally on specific campaigns while simultaneously demonstrating solidarity with their allies’ campaigns (for example, refer to Bond 2010, Klein 2014, and Temper & Gilbertson 2015).

A comparison of the principles and positions of the two extreme wings of the climate movement suggests that the two features that fundamentally distinguish the radical climate justice movement from CAN-I, and from other groups that lie in between the two extremes, are its anti-capitalism and its uncompromising ethical stance. Radical climate justice movement actors do not support measures identified as ‘false solutions’ by those who are affected by them; instead, they provide principled support to the least powerful and most marginalised people whose livelihoods and very lives are discounted by a neoliberalising and totalising global capitalist economy, which also discounts the lives of other species, entire ecosystems, and all

²⁰⁶ A more recent publication by this group, *A-Z of Green Capitalism* (Corporate Watch 2016), is available on the Corporate Watch website and provides explanations of the meaning and significance of complex concepts relevant to climate change and climate justice in simple language.

future generations.²⁰⁷ In other words, the radical climate justice movement adopts an uncompromising *ethical* stance that gives it the moral high ground, and although many would argue that this is its greatest weakness, it could also be argued (as I do) that this is its greatest strength.²⁰⁸ The CAN-I member quoted previously, who reflected on the split between CAN and *CIN!*, ended his reflection as follows:

Yet, after a year or so it [the split] led to a much deeper exploration of what equity means which, in my view, has contributed to the growth of CAN and the deepening of positions. Those groups that left have become less visible in the UN process, in which CAN is now the dominant NGO player.

(CAN 2014, p. 57)

But an objective consideration of what CAN-I has *achieved* as a result of choosing to work cooperatively within the system to encourage reforms suggests that its position of ‘dominance’ in the official climate change negotiations is perhaps not as significant as CAN-I hoped it would be. COP-15 was a disaster, with many analysts agreeing that the 2009 Copenhagen Accord was a last-minute attempt to salvage a very bad situation (Carter, Clegg & Wåhlin 2011; Parker *et al.* 2012). The 2015 Paris Agreement’s so-called ‘bottom-up approach’ is just as ineffective (if not actually regressive in comparison to the Kyoto Protocol that preceded it), having yielded

²⁰⁷ The concept of ‘false solutions’ is essential if one is to understand one of the key differences between the moderate climate action movement and the radical climate justice movement: while, on a superficial level, it is possible to discern ‘averting climate change’ as a broad common goal, unlike the reformist climate action movement, the radical climate justice movement is not prepared to achieve this aim using means that will put even greater burdens on subaltern social groups that are already disadvantaged in capitalist societies. It is for this reason that radical climate justice activists do not support moderate climate movement actors’ implicit or explicit support of policies that aim to further privatise the commons and thereby facilitate the exploitation and dispossession of powerless people. Radical climate justice movement actors are also more likely than moderate climate movement actors to be critical of technological solutions that further tamper with the planet’s biosphere (for example, through experimental and potentially dangerous ‘technological’ fixes such as geo-engineering).

²⁰⁸ UK Labour Party leader Jeremy Corbyn’s popularity seems to indicate that people respond well to honesty and integrity, and that they are also not necessarily averse to positions that elites do not support. Lewis (2017) suggests that Corbyn’s unexpected achievement in ‘narrowing the gap from around 20 to two points’ in the June 2017 election debunks several myths, including that ‘left-wing Labour manifestos go down badly with most voters.’ According to Rowley (2017), another factor explaining his ‘shock performance’ is that “He may not be slick, but people clearly see him as genuine.” All this suggests that honesty, integrity, and maintaining a principled defense of common human decency in refusing to be complicit in the suffering resulting from ‘false solutions’ may be the best long-term strategy for the radical climate justice movement.

INDCs that lock in a global average warming of “between 2.6 and 3.1 degrees Celsius by 2100” (Rogelj *et al.* 2016), ‘contributions’ which are, in any case, voluntary and not legally binding.²⁰⁹ It is clear that the best that global ruling elites can do given the organic crisis they face is to achieve a temporary and uneasy passive revolution: they can neither solve the ‘natural limits’ problem with their technical and market solutions (which, in any case, demonstrably often serve only to extract profits and not to mitigate climate change, as they claim), nor are they willing to devise and implement a real compromise with subaltern classes whose suffering intensifies as the climate crisis and all its various effects continue to unfold.

While the TCC and its allies have already lost the moral battle, continuing to reveal the causes of the many injustices that exist and the worse ones that are unfolding is the radical climate justice movement’s main strength. As many analysts and activists argue, it is crucial that supporters of the climate justice movement maintain constant vigilance against adopting tactics that involve making compromises that will lead to very different scenarios to those it aims to promote. Such vigilance is very difficult to maintain given the pressing nature of the challenges presented by anthropogenic global warming, as these put a lot of pressure on radical climate justice movement actors to make exactly these sorts of compromises. However, the stakes of ensuring that ‘real solutions’ that incorporate socio-economic justice and democratic concerns are adopted are very high, as the kind of society that is very likely to result from ‘false solution’ reformist or neoliberal compromises will lead not only to increasing social inequalities but to much death and destruction. One of the crucial roles that ecosocialists play within the climate movement is to consistently draw attention to what is at stake when choosing between strategies and tactics that lead to ‘false’ and ‘real’ solutions, as discussed in detail in Chapter 8. Prior to this discussion of ecosocialist strategy and tactics, however, an overview of ecosocialist theories and debates is provided in Chapter 7.

²⁰⁹ The ‘bottom-up’ approach *sounds* democratic but is, in true Orwellian fashion, quite the opposite since it was adopted at COP-21 against the wishes of many other governments and only after many years of US insistence that legally binding GHG emission targets be replaced by voluntary and non-binding INDCs.

Chapter Seven: Ecosocialist Theories and Theoretical Debates

“From the standpoint of a higher socio-economic formation, the private property of particular individuals in the earth will appear just as absurd as the private property of one man in other men. Even an entire society, a nation, or all simultaneously existing societies taken together, are not the owners of the earth. They are simply its possessors, its beneficiaries, and have to bequeath it in an improved state to succeeding generations, as *boni patres familias* [good heads of the household].”

(Marx *Capital Volume 3* [1981], p. 911)

Introduction

In this chapter I provide an overview of ecosocialist contributions to the development and dissemination of radical climate justice ideas, which compete with dominant analyses of the causes and proposed solutions to the organic crisis of global capitalism discussed in previous chapters. Because ecosocialism is not a monolithic theoretical perspective, however, there is much contestation in attempts to clarify the meaning of this concept, and I begin the discussion with an overview of these debates. Theoretical clarification is important because, as prominent ecosocialist John Bellamy Foster emphasises (and as discussed in Chapters 2 and 3 with reference to the role of theory), the understanding that theory ultimately informs practice is central to the Marxist tradition:

Historically, Marxism has always taken the development of theory/science very seriously, without which revolutionary praxis would be impossible. In the struggles to define the critique of capitalism embodied in Marxian ecology and ecosocialism it is essential to get the theory and the science correct to the extent possible. Our practice, the clarity of our ideas, our way forward depend on that.

(Foster, cited in Stache 2016)

In order to summarise some of the key debates between those who identify as ecosocialists, I therefore begin this chapter with an overview of ‘varieties of ecosocialism’ by referring to the useful distinction that Foster has developed in his categorisation of first-stage, second-stage and third-stage ecosocialism which, following Holleman’s (2015) caveat, are taken as “shifts in the focus of debate” rather than linear developments within that body of thought referred to as

‘ecosocialist’ (Foster 2015a, 2015b, 2016a; see also Clark & Foster 2010a, Foster & Clark 2016, and Stache 2016).²¹⁰ After an overview of these internal debates, I briefly summarise what Foster and other ecosocialists such as Ian Angus consider to be critically important theoretical debates within the Left between Marxist ecosocialist thinking and theories that can be used to support the pro-capitalist, technology-dense ‘post-environmentalist’ ecological modernization project as represented by groups such as The Breakthrough Institute. The chapter concludes with an overview of some of the work conducted by third-stage ecosocialists who apply Marxist ecological concepts and insights in their analyses of the current organic crisis of global capitalism. Third-stage ecosocialist contributions to the formulation of strategy and tactics by radical climate justice movement actors are discussed further in Chapter 8.

Contesting ideas: Varieties of ecosocialism

While many climate movement actors are becoming increasingly aware of the links between environmental, economic, political and social justice struggles, ecosocialists have developed and refined their understanding of these connections over many years, with ‘second-stage’ ecosocialists arguing that this understanding is evident from as early as the late nineteenth century, in the original writings of Marx and Engels. Michael Löwy traces the origins of contemporary ecosocialist ideas to the 1970s, and states that the word ‘ecosocialism’ gained prominence within the German Green Party in the 1980s (Löwy 2015, pp. xi-xii). As with all complex theoretical perspectives, however, there are many different interpretations of what ‘ecosocialism’ means. According to some theorists, ecosocialists combine *Marxist* critiques of capitalist political economy with *ecological* critiques of ‘productivism’ (‘production as a goal in itself’) and *wasteful* (or unnecessary) consumerism that serves profit accumulation rather than the purpose of meeting human needs in a

²¹⁰ While I try to incorporate enough information in my summaries of the debates for the reader to understand the key issues under contestation, the full body of first- and second-stage ecosocialist writings is extensive, and because of both time and space constraints I have had to be selective about what aspects of the debates I focus on.

sustainable way (Löwy 2015; emphasis in original).²¹¹ According to these definitions, ecosocialism thus constitutes what has been called a ‘red-green alliance’ with the broad aim of building a new society with what Ian Angus describes as ‘two fundamental and indivisible characteristics’:

It will be *socialist*, committed to democracy, to radical egalitarianism, and to social justice.... And it will be *based on the best ecological principles*, giving top priority to stopping anti-environmental practices, to restoring damaged ecosystems and to re-establishing agriculture and industry on ecologically sound principles.

(Angus 2011, p. 6)²¹²

While ecosocialists agree that ecological concerns would play a central role in the democratic and egalitarian socialist society they envisage and work towards creating, many of their disagreements revolve around the extent to which classical Marxism needs to be modified to better incorporate an understanding of capitalism’s environmental destruction and what this implies for the future of capitalism as well as for the Marxist emancipatory project as originally conceived by Marx and Engels in comparison to the challenges faced by Marxists today.

Debates amongst academic ecosocialist theorists can therefore be summarised as constituting disagreements about the extent to which ecosocialist theory needs to draw from ‘green’ perspectives (representing environmentalism) to supplement what some ecosocialists perceive to be ecologically deficient ‘red’ perspectives (representing socialism/Marxism). John Bellamy Foster posits that the notion of the need for a ‘red-green alliance’ that created a ‘hybrid analysis’ of Marxism and environmental theory is a feature of what he refers to as ‘first-stage ecosocialism,’

²¹¹ When discussing production and consumption issues, for instance, many ecosocialists emphasise Marx’s distinction between *use value* and *exchange value*, using these concepts to elaborate their ideas about how ecologically sustainable consumption can be achieved (for example, refer to Kovel 2007).

²¹² As Löwy (2015, p. xv) emphasises, there are a variety of interpretations of ecosocialism – a variety which he believes should be celebrated: “One of the virtues of ecosocialism is precisely its diversity – its plurality, the multiplicity of its perspectives and approaches, which are often convergent or complementary but also sometimes divergent and even contradictory.” Second-stage ecosocialists such as Foster and Burkett disagree with this celebration of theoretical diversity because of the political and practical implications that such divided views have for both agency and for strategic and tactical decisions.

which “developed under the hegemony of Green theory” (Stache 2016) and was part of the ‘self-criticism’ that began within Marxist theorising in the 1960s (Foster 2015b, p. 5). Foster argues that this perceived need to combine ‘green’ and ‘red’ theory and develop a new body of thought that negates and displaces ‘classical socialism’ is unnecessary as Marxism is *inherently* ecological (Stache 2016), an argument that is discussed in more detail after the brief overview of first-stage ecosocialism provided below.²¹³

First-stage ecosocialism

Foster and Clark (2016) attribute ‘first stage’ ecosocialist ideas to a widespread perception in the late 1980s and early 1990s that Marx’s writings were ‘anti-ecological’, with critics claiming that his ‘mechanistic-positivistic scientific view’ of nature, his ‘productivism’ and ‘Prometheanism’, and the labour theory of value that is central to his analysis of capitalist social relations of production needing modification.²¹⁴ Despite what Foster (2016a, p. 395) refers to as the 1960s and 1970s ‘prefigurative Marxian environmental perspective’ evident in the work of authors such as Barry Commoner, Virginia Brodine and Howard Parsons, perceptions that Marx’s work was ‘anti-ecological’ prevailed in the 1980s and 1990s for a variety of reasons, including a misplaced blame of the environmental disasters of the Soviet Union under Stalin and subsequent Soviet administrations on ‘Marxism’, the general disarray within the Left after the fall of the Soviet Union, the ascendancy of postmodernist thinking that rejected Marxism in its entirety, a misinterpretation and oversimplification of Marx and Engels’ views on nature as represented in their writings, and a fundamental misunderstanding of the way in which Marx uses the labour theory of value only for the purpose of *analysing capitalism*, the system he

²¹³ Marxists such as Hannah Holleman also argue that Marx’s work in itself provides a powerful theoretical framework for analyzing the environmental crisis; as she said in one of her presentations, “...the ecological critique and imperative for change is already explicit in Marx’s work and many socialist traditions. Therefore I consider myself a socialist rather than an ecosocialist, and the work described here is at heart simply Marxist in approach” (Holleman 2015, p. 10, Note 1)

²¹⁴ As Burkett (2014a, p. 147) explains, “Prometheanism, firmly rooted in the Enlightenment tradition, says that human progress hinges on the subjugation of nature to human purposes. Human development thus involves a struggle between people and nature in which people come out on top.”

critiques in his work, *not as a universal measure valid in all historical periods under all modes of production*.²¹⁵ Other reasons Foster offers as possible explanations of why many “ecological scholars make such great efforts to ignore, downplay, or distance themselves from these [ecological] insights by Marx and Engels” include Marxism’s revolutionary potential in its focus on class struggle, a prospect that Foster suggests ‘frightens’ some Left academics and challenges both the conventional wisdom that ‘the working class is by nature anti-environmental’ and the normative political preferences of ‘non-radical, capitalist-oriented environmentalists’ (Stache 2016). While it is extremely difficult (if not impossible) to address *ideological* motivations for rejecting arguments that classical Marxism is inherently ecological, the specific charges made by first-stage ecosocialist theorists such as Ted Benton, André Gorz, James O’Connor, Joel Kovel, Robyn Eckersley, Daniel Bensaïd and Daniel Tanuro (Foster 2016a; Stache 2016) *can* be addressed by revisiting Marx and Engels’ writings and pointing out the misinterpretations, omissions and misconceptions that have informed its perceived ecological shortcomings. In addition to conducting close textual analyses of Marx and Engels’s original works to determine what they actually wrote and thought about ecology, second-stage ecosocialists also identify the origins of the widespread views that classical Marxism is ‘anti-ecological’ as this can help clarify some of the ideological motivations informing these views.

Foster and Clark (2016, pp. 3 – 6) attribute the origin of many of the misconceptions about Marx’s views on ecology to critical theorist Alfred Schmidt’s dissertation, *The Concept of Nature in Marx*, which was published in Germany in 1962 and which, via several ‘inconsistencies’ and ‘convolutions,’ misinterpreted Marx’s work as positivist

²¹⁵ One example of such confusions is evident in how Löwy (2016, p.22) refers to Marx as ‘rejecting productivism’ and insisting on ‘the full realisation of... human potentialities,’ but then proceeds to define ecosocialism as “...a current of thought and environmentalist action that integrates the fundamental principles of Marxism, *short of their productivist trappings*” (Löwy 2016, p. 23; emphasis added). This contradiction may arise because Löwy (2016) fails to distinguish clearly between Marx’s views as represented in his writings and the environmental damage resulting from what Löwy refers to as “the productivist ideology of progress, whether in its capitalist or bureaucratic (so-called ‘real socialist’) forms” (*ibid.*, p. 23) or the notions prevalent in ‘certain vulgar Marxism’ (*ibid.*, p. 25) - in other words, the way in which Marx’s work has been misinterpreted by others.

and mechanistic and claimed that he had promoted ‘unrestrained productivism’ (see also Burkett 2005). Foster (2014, 2016a) points out that Schmidt was a doctoral student working under the supervision of Frankfurt School critical theorists and Western Marxists Max Horkheimer and Theodor Adorno, who themselves had interpreted Marx’s work as ‘positivist’. The English translation of Schmidt’s book was published in 1971, and its claim that Marx had ‘fallen prey’ to the Enlightenment project promoting human domination over nature influenced the revived Marxism of the 1960s and 1970s, leading to the widespread view that Marx’s thought did not incorporate concerns about the natural world (Foster 2014, 2016a). Foster (2014, p. viii) argues that even studies of Marx’s writings tended to ignore or gloss over the way in which they incorporate “comprehensive scientific analysis of the natural conditions underlying production and the capitalist economy.”²¹⁶ The group of theorists that Foster refers to as ‘second-stage ecosocialists’ (a group that includes Foster as well as academics such as Paul Burkett, Brett Clark, Hannah Holleman, Stefano Longo, Kohei Saito and Richard York) responded by revisiting Marx and Engels’ original work in order to establish the accuracy of first-stage ecosocialist critiques and found textual evidence that contradicted this conventional wisdom that classical Marxism ignored nature, or reduced its intrinsic and independent importance and treated it in purely instrumental terms. As discussed in more detail below, second-stage ecosocialists identify the centrality of capitalism’s damaging impact on nature throughout Marx and Engels’ work, pointing to many illustrative examples, and they argue that the way this body of work was read and interpreted in the past ignored this aspect of their writing.

Second-stage ecosocialism

Foster and Clark (2016) identify the emergence of ‘second-stage’ ecosocialism in the 1990s, with Peter Dickens’ 1992 book *Society and Nature: Towards a Green Social Theory* representing an early example of the approach subsequently also adopted by

²¹⁶ Foster (2015a, p. 4) suggests that the ecological content of Marx’s work may have been previously ignored partially because, as Marxist Rosa Luxemburg observed in the early twentieth century, his vast body of work “extended beyond the immediate needs of the working-class movement [and] would only be discovered and incorporated much later, as the socialist movement matured and new historical challenges arose.”

other key second-stage ecosocialist theorists.²¹⁷ Dickens' approach constituted a 'turning point' in ecosocialist theorising in that, rather than accepting the conventional wisdom that classical Marxism was anti-ecological and needed to be revised and supplemented with elements of 'deep-ecology' perspectives, it revisited Marx's early writings in order to analyse his theory on how capitalist relations of production alienate humanity from nature (Foster & Clark 2016, p. 13). Dickens argued that instead of 'grafting' green theories onto a revised Marxism, it was necessary "to extend Marx's method, which included both a historical-materialist and dialectical assessment of the relationship between society and nature" (Foster & Clark 2016, p. 13).

Second-stage ecosocialists thus develop what Foster refers to as 'anti-critiques' in response to ecological critiques of Marxism by revisiting the original works by Marx and Engels with a specific purpose: "to examine the role of ecological analysis in the deep structure" of their writings (Foster cited in Stache 2016).²¹⁸ This re-reading of Marx and Engels found evidence that countered first-stage ecosocialist critiques so that over the next decade's debates "...first-stage ecosocialists were forced to accede the ground at nearly every point" (*ibid.*). In the interview with Stache, Foster considers the book *Marx and the Earth* (2016), which he co-authored with Paul Burkett, as:

... in many ways the culminating stage in this debate. It is a response to a number of counterattacks and persistent misconceptions aimed at Marx and Engels, particularly in the area of ecological economics. Some ecological economists like Joan Martinez-Alier and James O'Connor argued that Marx and Engels failed to incorporate thermodynamics into their analysis. Similarly, it has been charged that Engels rejected the second law of thermodynamics. Other criticisms directed at classical historical materialism are also addressed, such as Joel Kovel's claim that

²¹⁷ Foster (cited in Stache 2016) identifies Paul Burkett's *Marx and Nature* (1999) and his own *Marx's Ecology* (2000) as other important early examples of second-stage ecosocialist works.

²¹⁸ Foster points out that anti-critiques are, in themselves, also valuable exercises, as the process of conducting them constitutes a powerful method facilitating "self-clarification and a degree of self-critique, together with a major dialectical advance in theoretical understanding. In this way Marxism has continually deepened and revolutionized its perspective, renewing itself in terms of both its foundational views and new historical challenges" (Foster, cited in Stache 2016).

Marx and Engels excluded any notion of the intrinsic value of nature, Daniel Tanuro's charge that Marx and Engels ignored the various qualitatively different forms of energy, and John Clark's contention that Marx denied the organic relations between nature and society.

In addition to responding to specific criticisms of Marx's work and questioning "the tendency to pit the young Marx against the mature Marx, Marx against Engels, and natural science against social science" (Foster & Clark 2016, p. 13), second-stage ecosocialists have also focused on 'reconstructing' Marx and Engels's ecology (Foster 2014). Close readings of Marx's writings reveal that nature plays a central role in his critique of capitalist political economy, particularly in his "...theory of metabolic rift, his ecological-value analysis, the analysis of ecological imperialism, and Marx and Engels' development of the dialectics of ecology" (Foster, cited in Stache 2016; see also Foster 2000, 2009). I provide an overview of Marx's metabolic rift analysis after discussing the second-stage ecosocialist responses to specific critiques of classical Marxism.

Second-stage ecosocialist responses to specific critiques by first-stage ecosocialists

In addition to the other reasons (noted previously) informing the widespread common perception that classical Marxism is anti-ecological, many confusions and misinterpretations of Marx's work arise from a failure to recognise that the core of his work involves a *critique of capitalism* and not an ahistorical account of all social formations at all times. Thus, for example, Marx's labour theory of value constitutes an analysis of the form that value takes in *capitalist* societies, not "of all labour at all times" (Foster & Clark 2016, p. 9). While the scope of this dissertation does not allow for a detailed exposition of all the critiques and anti-critiques related to the ecological content and potential of classical Marxism, I provide brief overviews of some of the most common and important debates below, beginning with second-stage ecosocialist responses to critiques of Marx's value theory.

On Marx's labour theory of value

One of the most significant and persistent critiques of classical Marxism made by mainstream green theorists as well as some first-stage ecosocialists is that the centrality of Marx's labour theory of value renders Marxist political economy antithetical to an ecological value analysis (Clark & Foster 2010a, p. 148). In response, Burkett (2014a, p. 99) observes that: "Generally speaking, these critics fail to appreciate the historical and social-relational aspect of Marx's theory – that value as a specifically capitalist form of wealth does not represent Marx's normative valuation of nature's intrinsic worth (e.g. in terms of aesthetic and other use values)." Moreover, as Clark and Foster remind Marx's critics:

The conceptual categories that Marx uses in his critique, such as nature as a free gift, and the law of value, are categories that he did not invent, but ones that he took over from classical political economy – *recognizing that they exhibited the real tendencies of the [capitalist] system [he critiques]* – and that he sought to transcend by transcending bourgeois society itself.

(Clark & Foster 2010a, p. 149; emphasis added)

Burkett attributes many misinterpretations of Marx's value analysis to critics' failure to understand "the distinctions and relations among Marx's conceptions of use value (to which nature always contributes), value (the necessary wage-labor time objectified in *commodity* use values), and exchange value (the monetary price paid for a use value)" (Burkett 2014a, p. 69, emphasis in original). He goes on to explain the importance of these distinctions and relations to Marx's method in more detail:

Only by clearly demarcating and showing the relations and tensions among value, exchange value, and use value phenomena is Marx able to establish how capitalism's class-exploitative relations shape production together with its human and extra-human natural conditions. At the same time, Marx analyses how particular sub-forms of value and capital (e.g. money, wages, constant capital, fixed and circulating capital, rent) are themselves shaped by the material conditions of production, that is, by the natural basis and substance of use value. In this way, Marx's value analysis reveals the tensions between wealth in its capitalist form and wealth in the sense of the individual and collective needs of social human beings co-evolving with nature, along with the implications of these tensions for class struggle and the movement toward a new stage of wealth production.

(Burkett 2014a, p. 100)

Importantly, Burkett goes even further in his response to critics who challenge Marx on his failure to ascribe an intrinsic value to nature, explaining that attempts to do this ultimately lead to conflations of different value forms that obscure ecological contradictions inherent in capitalist economics:

By contrast, many of Marx's ecological critics want to directly attribute value to nature without taking account of the historical specificity of wealth's social forms as determined by particular production relations. As a result, when they try to specify the precise *value-form* taken on by nature (value in terms of what, and for whom?), they are driven to various theoretical contradictions and defaults. The most common contradiction here is the inability to define nature's purported 'value' independently of its exchange value and/or its use value, which often leads to (implicit or explicit) *conflations* of the three concepts. These conflations cause the critics in question to ignore or soft-pedal the ecological contradictions of capitalist wealth as revealed by Marx's relational and dialectical approach to value, exchange value, and use value.²¹⁹

(Burkett 2014a, p. 100; emphasis in original)

Although there are many additional intellectually interesting aspects to this debate (such as Marx's engagement with the Lauderdale Paradox, which Clark and Foster (2010a) discuss in some detail), I conclude this section with Foster and Clark's important point that critics of Marx's labour theory of value fail to see that:

...it was... [the] very one-sidedness of the value form in capitalism that lay at the center of Marx's critique, associated with the contradiction between wealth (derived from natural-material use values) and value or exchange value (which left out nature altogether). For Marx, once it was recognized that nature – constituting, together with labor, one of the two sources of all wealth – was not included in the capitalist value calculus but was treated as a 'free gift... to capital,' it was impossible *not* to recognize both the existence of natural limits and capital's destructive tendency to override them, in its unending drive for accumulation.

(Foster & Clark 2016, p. 9)

Related to critiques about Marx's neglect of nature's intrinsic value in his value theory, are the claims by some critics that classical Marxism is anti-ecological

²¹⁹ Burkett (2014a, pp. 100 – 106) responds in detail to specific critiques of Marx's neglect of intrinsic value by Gunnar Skirbekk, David Orton, Geoffrey Carpenter and Ted Benton. While these responses are very illuminating, due to their being too detailed for the purposes of this dissertation, rather than trying to summarise his responses here, I refer the interested reader to Burkett's original writings.

because of its 'productivism' and 'Prometheanism.' While Paul Burkett addresses such claims in greater detail in his 2014 book, *Marx and Nature: A Red and Green Perspective*, he has also authored several articles on these issues and I primarily refer to arguments he presents in a 2005 paper, *Marx's vision of sustainable human development*, to summarise his anti-critique of claims that Marx was a 'productivist' below.

On Marx's 'productivism' and views on the human conquest of nature

Burkett (2005) sets out to address critiques that Marx's vision of communism or socialism implies an 'ecologically unsustainable' assumption that there are no natural limits to production and that Marx is 'Promethean,' promoting the Enlightenment project of achieving human domination over nature. Burkett begins his discussion by identifying a few examples of such critiques, including one made by ecological economist Herman Daly who contends that, for the 'materialist determinist' Marx, "...economic growth is crucial in order to provide the overwhelming material abundance that is the objective condition for the emergence of the new socialist man. Environmental limits on growth would contradict 'historical necessity'" (Daly, cited in Burkett 2005, pp. 34 – 35).²²⁰ Burkett (*ibid.*, p. 35) also refers to Robyn Eckersley's claim that "Marx fully endorsed the 'civilizing' and

²²⁰ Herman Daly is an early founder of a tendency within the environmental movement that Leahy characterises as 'radical reformism' (2017, p. 1). While this group of theorists critique some features of capitalism for causing environmental damage, according to Leahy (*ibid.*, p. 2) they "primarily identify as environmentalists, rather than as socialists or anarchists." Unlike ecological Marxists, they do not see capitalism (as a system) as *inherently* anti-ecological. Despite the radical nature of the reforms they propose to address the issue of sustainability (with reforms including a steady-state economy, the redistribution of wealth, strong government regulation, and instituting minimum and maximum income levels), they do not propose the abolition of capitalism because of their belief that "properly functioning markets allocate resources efficiently" (Daly 2007, cited in Leahy 2017, p. 5). The reforms they propose are so radical, however, that Leahy argues that they would likely lead to socialism if implemented (which is why the capitalist class and its political representatives and defenders are unlikely to countenance instituting them, as some of these theorists hope they will do voluntarily). Leahy (2017, p. 13) concludes that because of its radical potential, "radical reformism is not just ecological modernization in a new garb." Nevertheless, the radical reformist perspective is seen as problematic by ecological Marxists: citing Davidson (2012), Leahy (p. 13) presents one Marxist critique of this perspective as being that it "gives credibility to the very structures which 'have been responsible for environmental decline' in the first place."

technical accomplishments of the capitalist forces of production and thoroughly absorbed the Victorian faith in scientific and technological progress as the means by which humans could outsmart and conquer nature” and her argument that Marx “consistently saw human freedom as inversely related to humanity’s dependence on nature.”²²¹ Briefly outlining a few other critiques along similar lines, Burkett points out the political implications of accepting such critiques without engaging with Marxism’s ‘human developmental and ecological elements’: such ideas lead even some Marxists “to place their bets on a ‘greening’ of capitalism as a practical alternative to the struggle for socialism.” Given the political and practical implications of this debate, Burkett (*ibid.*) returns to the writings of Marx and Engels to identify the key elements of their vision of ‘sustainable human development’ within a post-capitalist economy and society in order to examine whether these visions were, in fact, ‘anti-ecological,’ ‘productivist,’ and promoted (or supported) ‘the human domination of nature.’²²²

As Burkett (*ibid.*, p. 36) points out, while there is a ‘conventional wisdom’ that Marx and Engels rejected speculations about ‘socialist utopias’ and provided few thoughts about what a post-capitalist society should look like, ‘post-capitalist economic and political relationships’ are recurring themes in all their major works and most of their minor works.²²³ Despite this body of thought being ‘scattered’ throughout the entire body of their work, Burkett (*ibid.*, p. 36) argues that “one can easily glean from them a coherent vision based on a clear set of organizing principles”, which he summarises as follows:

The most basic feature of communism in Marx’s projection is its overcoming of capitalism’s social separation of the producers from necessary conditions of production. This new social union entails a

²²¹ The texts from which Burkett (2005) quotes these arguments are Herman Daly’s 1992 *Steady-State Economics*, 2nd ed., London, Earthscan, p. 196 and Robyn Eckersley’s 1992 *Environmentalism and Political Theory*, Albany, State University of New York Press, p. 80.

²²² Some of the original works that Burkett (2005) refers to in his responses to specific criticisms of Marx and Engels’ ideas include *Capital Volumes 1, 2 and 3*; *Critique of the Gotha Programme*; *Economic and Philosophical Manuscripts of 1844*; *Anti-Dühring*; *The German Ideology*; *Dialectics of Nature*; *Grundrisse* and *Theories of Surplus Value*

²²³ Refer also to Peter Hudis’ *Marx’s Concept of the Alternative to Capitalism* (2012) for a detailed investigation of Marx’s vision of a post-capitalist future.

complete decommodification of labor power plus a new set of communal property rights. Communist or ‘associated’ production is planned and carried out by the producers and communities themselves, without the class-based intermediaries of wage-labor, market, and state. Marx often motivates and illustrates these basic features in terms of the primary means and end of associated production: free human development.

(Burkett 2005, p. 36)

Burkett (2005, p. 45) argues that three aspects of Marx’s vision of a desirable post-capitalist future should be considered when evaluating the extent to which this vision is environmentally sustainable: “(1) the responsibility of communism to manage its use of natural conditions; (2) the ecological significance of expanded free time; [and] (3) the growth of wealth and the use of labor time as a measure of the cost of production.” Key features of the development of Burkett’s argument in discussing these three aspects of classical Marxism are summarised below.

Burkett (2005, p. 46) notes that not only does Marx’s writing clearly demonstrate his deep concerns about the way in which capitalist agricultural practices sapped “the original sources of all wealth, the soil and the labourer,” but he also “repeatedly emphasized the imperative for post-capitalist society to manage its use of natural conditions responsibly” and insisted “on the extension of communal property to the land and other ‘sources of life’” (*ibid.*). Communal land ownership, in Marx’s vision, comes with the responsibility to treat “the soil as *eternal* communal property, an *inalienable* condition for the existence and reproduction of a chain of successive generations of the human race” (Marx, *Capital Volume 3*, cited in Burkett 2005, p. 47). Burkett (*ibid.*) argues that “Marx’s emphasis on the future society’s responsibility toward the land follows from his projection of the inherent unity of humanity and nature being realized both consciously and socially under communism.” He links this argument to how, “for Marx and Engels, people and nature are not ‘two separate “things”’; hence they speak of humanity having ‘an historical nature and a natural history’” (*ibid.*). In addition, Marx and Engels regard individuals as ‘subservient to nature,’ and communism as a system that would overcome ruptures between humans and nature, with Marx going “so far as to define communism as ‘the unity of being of man with nature’” (*ibid.*).

Given the material reality that humans cannot survive unless they meet their needs by interacting with nature, in Marx's vision of a communist future this interaction will, of course, continue – but it will be conducted by “the associated producers *rationally regulating* their interchange with nature” (emphasis added), a regulation that “presumes that the producers have ‘become masters of their own social organisation’” but, crucially, “does not presume that humanity has overcome all natural limits; nor does it presume that the producers have attained complete technological control over natural forces” (*ibid.*). If Marx had envisaged complete human mastery over nature, there would have been no need for him to suggest that “the associated producers [should set]... aside a portion of the surplus product as a ‘reserve or insurance fund to provide against misadventures, disturbances through natural events, etc.’ especially in agriculture” (2005, p. 48). Burkett summarises Marx and Engels' views about human domination of nature as follows:

Contradicting their ecological critics, Marx and Engels simply do not identify free human development with a one-sided human domination or control of nature. According to Engels, ‘Freedom does not consist in the dream of independence of natural laws, but in the knowledge of these laws, and in the possibility this gives of systematically making them work towards definite ends.... In short, Marx and Engels envision a ‘real human freedom’ based on ‘an existence in harmony with the established laws of nature.’

(Burkett 2005, pp. 48 – 49)

Having addressed the claims of critics that Marxism is inherently anti-ecological because of its alleged promotion of ‘human domination over nature,’ Burkett turns his attention to arguments that the Marxist vision of ‘expanded free time’ is inherently anti-ecological. Such arguments are based on assumptions that labour can only enjoy more free time if there is extensive automation (using energy-intensive technology) or that there are such abundant resources that people don't need to work long hours (which implies the availability of limitless natural resources). Burkett (2005, pp. 49 - 50) points out that “the ecological critics have mischaracterised the relation between free time and work time under communism,” a system in which not only is producers' labour time “reduced to a *normal length*” (emphasis added) because they are no longer compelled to work for others, but the labour itself is also qualitatively different and presents opportunities for the achievement of higher self-

realisation. Burkett summarises the ecological nature of Marx and Engels' vision of free time as follows:

In short, the founders of Marxism did not envision communism's reduced work time in terms of a progressive separation of human development from nature. Nor did they see expanded free time being filled by orgies of consumption for consumption's sake. Rather, reduced work time is viewed as a necessary condition for the intellectual development of social individuals capable of mastering the scientifically developed forces of nature and social labor in environmentally *and* humanly rational fashion. The 'increase in free time' appears here as 'time for the full development of the individual' capable of 'the grasping of his own history as a *process*, and the recognition of nature (equally present as practical power over nature) as his real body.' Far from anti-ecological, this process is such that the producers and their communities become more theoretically and practically aware of natural wealth as an eternal condition of production, free time, and human life itself.

(Burkett 2005, p. 50; emphasis in original)

Burkett (2005, p. 51) furthermore points out how "ecological critics also seem to have missed the potential for increased free time as a means of *reducing* the pressure of production on the natural environment" (emphasis in original), which can happen in a system in which rising productivity is rewarded by free time rather than by more money with which to buy more consumer goods. Decreased consumption is furthermore linked to "communism's transformation of human needs," which constitutes the next part of Burkett's argument against critics who charge Marxism with being anti-ecological.

Addressing the issue of Marx and Engels's "notorious references to continued growth in the production of wealth under communism," Burkett (2005, p. 52) emphasises that rather than being 'productivist,' Marx and Engels define 'growth' in terms of "free and well-rounded human development," not "material production and consumption for their own sake." In addition, he points out that when Marx and Engels talk about growth, therefore, it is always with reference "to growth of wealth in a general sense, encompassing the satisfaction of needs other than those requiring the industrial processing of natural resources (matter and energy throughput)" (*ibid.*). Citing Ernest Mandel, Burkett (2005, p. 53) argues that the Marxist "social and human developmental approach to need satisfaction is quite

different from the ‘absurd notion’ of unqualified ‘abundance’ often ascribed to Marx...” Needs can be categorised as ‘basic,’ ‘secondary,’ and ‘luxury, inessential or even harmful needs,’ and, drawing on Mandel’s work, Burkett (2005, p. 53) argues that Marx foresees communist societies as meeting everyone’s *basic* needs followed by “the gradual extension of this satisfaction to secondary needs... *not* a full satiation of all conceivable needs” (emphasis in original). He furthermore argues that it is in Marx’s notion of secondary needs that “one begins to see the full ecological significance of free time as a measure of communist wealth,” particularly “if the secondary needs developed and satisfied during free time are less material and energy intensive...” This is, indeed, precisely Marx’s vision: he sees “the producers using their newfound material security and expanded free time to engage in a variety of intellectual and aesthetic forms of self-development” (*ibid.*).²²⁴

As Foster and Clark (2016, p. 4) also conclude from their readings of Marx’s work, rather than being a ‘productivist, he privileged the goal of the fulfilment of humanity’s *qualitative* needs (use value); nowhere did he suggest that capitalism’s drive for “endless quantitative expansion (exchange value) was a desirable goal for humanity. He saw value, which in capitalist economics emanates from ‘capital alone,’ as ‘contradicting’ wealth, which Marx understood as “deriving from both nature and labor.” The two fundamental sources of wealth mentioned here (nature and labour) are relevant in another important debate between first-stage and second-stage ecosocialists over James O’Connor’s thesis of the ‘second contradiction of capitalism.’ Given that nature is an essential source of wealth, and that ‘free nature’ has been pivotal to accumulation strategies throughout the history of capitalism, first-stage ecosocialist James O’Connor considered how the serious environmental degradation that was already evident in the 1980s (and is much more serious now) might negatively impact on capital accumulation. O’Connor proposed a modification to Marx’s theory: the incorporation of a ‘second contradiction of capitalism’ which, he argued, like Marx’s ‘first contradiction of capitalism’, could also lead to *economic* crises. This came to be another contentious issue generating anti-

²²⁴ Refer to Burkett (2005, 2014a, 2014b) for many more detailed investigations of the works of Marx and Engels demonstrating that, contrary to critics’ assertions, their vision of communism is inherently environmentally sustainable.

critiques from second-stage ecosocialists such as John Bellamy Foster and Paul Burkett.²²⁵

On Marx's failure to identify the 'second contradiction of capitalism'

O'Connor argues that in identifying "capitalism's inherent tendency toward a realization crisis, or crisis of capital over-production" as a result of capital's 'limitless drive to increase the rate of exploitation' of labour (which he refers to as the 'first contradiction of capitalism'), Marx failed to identify a second contradiction resulting from capital accumulation strategies: "a tendency toward the amassing of wealth at one pole and the accumulation of conditions of resource-depletion, pollution, species and habitat destruction, urban congestion, overpopulation and a deteriorating sociological life-environment (in short, degraded 'conditions of production') at the other" (Foster 1992, pp. 78 – 79). O'Connor furthermore argues that the relative stagnation in the world economy since the 1970s has resulted in the 'supply-side' restructuring of global capitalism: "the opening up of the system to a more intensive exploitation (and superexploitation) of labor and the environment" which has accelerated the pace of environmental degradation so much that the 'second contradiction of capitalism' is 'rapidly gaining on the first' (Foster 1992, p. 81). The implications of this argument are that "the economic repercussions of the second contradiction will grow by leaps and bounds... marking nature's ultimate 'revenge' on the accumulation process" (Foster 1992, p. 81). O'Connor's critique of Marx's ecological concerns is that while Marx recognised that capitalist agriculture was environmentally damaging, he failed to consider the possibility that the ecological degradation of the capitalist mode of production "... 'might threaten economic crisis of a particular type, namely, underproduction of capital,' due to the impairment of the natural conditions of production" (Foster 2002, p. 7). According to O'Connor, this failure on Marx's part requires ecological Marxists to develop "a theory of how increasing ecological costs [contribute] to decreasing profitability and accumulation crisis" (Foster 2002, p. 7). Before discussing Foster's response to

²²⁵ James O'Connor introduced his thesis of the 'second contradiction of capitalism' in an article published in the 1988 inaugural volume of a leading academic ecosocialist journal, *Capitalism Nature Socialism*, and expanded on it in later writings (Foster 1992, p. 77).

O'Connor's argument, I provide an overview of Burkett's response, which emphasises the differences between O'Connor's thesis and Marx's understanding of capitalism's *fundamental* contradiction.

Contrary to popular perceptions that Marx located capitalism's 'historical limits' solely to "tendencies toward overaccumulation and falling profitability," Burkett points out that Marx identifies capitalism's 'fundamental contradiction' as "the contradiction between production for private profit and production for human needs" (Burkett 2014a, p. 175, p. 177). In other words, in Marx's analysis the 'real barrier' capitalism faces is not its 'profitability crises' but is actually "located at the more basic level of production's 'motive and purpose' being private profit ('capital and its self-expansion') rather than human needs and, in particular, the socially developed needs or 'living process' of the producers" (*ibid.*, p. 177). Thus, in contrast to O'Connor's understanding of what he refers to as the 'first contradiction of capitalism,' Burkett points out that, "For Marx, capitalism's fundamental contradiction is not reducible to accumulation crises; rather, such crises 'reveal' this fundamental contradiction, thereby showing that capitalism is 'only a transitional, historical form' of production" (*ibid.*, p. 180). Moreover, Burkett argues that "...the conflict between production for profit and production for human needs, the alienation of the conditions of production vis-à-vis the producers and their communities, and the tension between social production and private appropriation, are all equivalent expressions of capitalism's fundamental contradiction in Marx's view" (*ibid.*, p. 178). O'Connor's 'two contradictions' are, from a Marxist perspective, thus "both *symptoms* of this more basic contradiction" (*ibid.*, p. 196; emphasis in original). Burkett summarises his critique of O'Connor's thesis as follows:

For Marx, the fundamental contradiction of capitalism is that between wealth *for capital* versus wealth *for the producers and their communities* – where the latter is defined not in terms of the minimalist material and social requirements of capital accumulation but rather in terms of the conditions for a less restricted and more sustainable human development (cf. Lebowitz, 1992b). Marx does not artificially divide capital's power over both labor and its conditions into two separate powers. Rising exploitation, overproduction crises, increasing 'external costs' of production, and the degradation of human, natural, and social wealth are all

necessary, mutually constituted aspects of capitalism's fundamental contradiction, in Marx's view.

(Burkett 2014a, p. 197; emphasis in original)

Supplementing Burkett's approach of returning to Marx's original writings to review his theory of the fundamental contradiction of capitalism, Foster (2002, p. 6) considers two issues in evaluating O'Connor's argument: whether ecological crises necessarily lead to economic crises under capitalism, and the extent to which ecological contradictions lie 'at the heart of capitalist society.'

Regarding the issue of whether ecological crises necessarily lead to capitalist economic crises, Foster (2002, pp. 10 – 11) argues that it would be a mistake to "underestimate capitalism's capacity to accumulate in the midst of the most blatant ecological destruction, to profit from environmental degradation... and to continue to destroy the earth to the point of no return – both for human society and for most of the world's living species." Burkett (2014, p. 195) similarly argues that the problems created by environmental degradation can present new opportunities for realising surplus value, and recent empirical evidence supports this view. Naomi Klein's (2007, 2017) work on 'disaster capitalism,' as well as other analyses inspired by this work, provide examples of how capitalists already profit from environmental degradation and disasters and also outline some of the neoliberalising commodification and financialisation mechanisms and processes being used to profit from natural 'resource management,' neoliberal forms of nature conservation, and environmental disasters such as the climate change caused by anthropogenic global warming.²²⁶ Fletcher (2012), for example, discusses several ways in which the need to address climate change is being used as a justification for financialising nature conservation through UNFCCC-endorsed projects such as REDD+ and CDM as well as

²²⁶ Fletcher (2012, p. 106) refers to Büscher's (n.d.) notion of 'the unique nature of neoliberal *conservation* vis-à-vis neoliberal natural resource management in general': "As opposed to resources whose use can be bought and sold within markets, the resources upon which carbon control (like other conservation measures) is based must by definition be preserved *in situ*, and thus creative means must be found to ascribe exchange value to these resources without granting access to their use. In other words, the 'fixed capital' (in the form of the localized natural resources) upon which conservation is based must be transformed into fluid capital that can be abstracted and freely circulated throughout the world."

through the creation of carbon trading markets and environmental (or ‘weather’) derivatives, including ‘catastrophe bonds.’²²⁷

Extending the profit opportunities provided to capital by financial instruments facilitating speculation on staple food crops that result in price hikes disadvantaging the poorest people (Baines 2017; Clapp 2009), additional financial instruments have even been created to allow speculators to gamble on the weather (Pike & Pollard 2010; Randalls 2010).²²⁸ Randalls (2010, p. 711) defines weather derivatives as “financial contracts that enable companies to trade upon weather indices (such as temperature, precipitation, snowfall, wind velocity or frost) to manage their weather-sensitive costs or simply to speculate” and, interestingly, identifies their emergence to “the US energy sector in the mid-1990s with Enron, Aquila and Koch Industries.” These ‘weather derivatives’ enable wealthy financial speculators, whose lifestyles are largely to blame for global warming, to gamble on and profit from the resulting climate change crisis while the poor and disadvantaged people who contribute negligibly (if at all) to anthropogenic global warming suffer, many even losing their lives as a result of ‘extreme weather’ events manifesting as prolonged droughts and extreme floods.²²⁹ Fletcher concludes that:

In this way, uncertainty concerning climate change impacts becomes not a hindrance to marketization but yet another opportunity for profit; both the climate crisis and uncertainty concerning the same become distinct sources of value, a double reversal of James O’Connor’s (1994) predictions.

(Fletcher 2012, p. 107)

Climate movement actors such as Naomi Klein argue that these opportunities to profit from this model of ‘disaster capitalism’ may even motivate efforts to ignore or,

²²⁷ ‘Catastrophe bonds’ are “securities that manage the risks of improbable but catastrophic natural events” (Fletcher 2012, p. 107).

²²⁸ Refer to Clapp (2009) for a detailed analysis of features of the neoliberal global economy, including financial speculation in commodities, which led to sharp price hikes in basic food staples in 2008. Clapp’s analysis reveals structural features within the global economy that are likely to lead to more food price hikes that further disadvantage the poorest and most vulnerable people in the world while generating profits for wealthy institutional investors.

²²⁹ According to an Oxfam Briefing Paper, the richest 1% of the global population is estimated to contribute up to 175 times as much to CO₂ emissions as the poorest 10% of the global population (Oxfam 2015).

worse still, actively work “to discredit predictions of the impending climate crisis, in order to harness both current sources of profit potentially compromised by a serious mitigation response and, moreover, to let the crisis unfold in anticipation of the new sources of profit thereby created,” as evidenced by how ExxonMobil funded climate change denial (*ibid.*, pp. 107 - 108).

In addition to the ways in which capital can (at least in the short term) transform environmental crises into profit-making opportunities, Foster raises two more issues that O’Connor failed to address when formulating his thesis on the ‘second contradiction of capitalism’: that environmental damage could be serious while not directly affecting conditions of production, and the implications of the fact that effects of environmental damage are not the same everywhere. Listing several examples, such as the serious degradation of the ozone layer and the extinction of species that are ‘still unknown to science,’ Foster (2002, p. 11) points out that the most severe environmental damage of the normal operations of the global capitalist economy does not necessarily occur “where it principally affects the conditions of production” and it thus need not result in accumulation crises. With respect to the implications of the uneven effects of the damage caused by environmental disasters such as anthropogenic global warming leading to climate change, Foster points to the example of the Bush Administration’s *Climate Action Report, 2002*, in which:

The EPA acknowledged the dangers to life and living conditions represented by global warming, but emphasised that in the United States the environmental damage would be most visible in the melting of snow in the mountains, and the like. Where the conditions of production of agriculture were concerned, global warming, it was suggested, might even increase overall agricultural productivity. This lack of a clear connection between environmental damage and damage to the economic conditions of production was used (via standard cost-benefit analysis) to justify a policy of *adapting* to global warming as it developed, rather than taking measures to decrease the extent of global warming – since these would increase the costs of production. It follows that there is no natural feedback mechanism that automatically turns environmental destruction into increasing costs for capital itself.

(Foster 2002, p. 12; emphasis in original)

Foster concludes that a focus on capitalism’s undermining of its own conditions of production therefore “downplay[s] the full dimensions of the ecological crisis and

even of capitalism's impact on the environment in the process of trying to force everything into the locked box of a specific economic crisis theory."

Like Burkett, who points out that the effect of O'Connor's dichotomy "tends to soften the distinction between the conditions required for capitalist production and the conditions required for human development" and leads to artificial divisions between "labor and ecological struggles – with the latter still basically defined as 'non-class'" (Burkett 2014a, p. 197), Foster similarly identifies the important political implications of O'Connor's argument: the way the 'second contradiction of capitalism' is "tied to the growth of contemporary radical social movements" while his 'first contradiction of capitalism' "is associated with the class-based labor movement" (Foster 2002, p. 9). O'Connor's hope that social movements will succeed in forcing capital to internalise its current 'externalities' is also unlikely to be realised; what is more likely is that environmental destruction will instead "provide entirely new ways to profit" (Foster 2002, p. 12) which, as discussed above, is precisely what is happening.²³⁰

An even more important issue to consider in the context of the global warming crisis is the danger that capital's ability to transform environmental crises into profit-making opportunities in the short term does not mean that the market mechanisms deployed to profit from these new accumulation opportunities will also do what they claim to do: address environmental issues effectively. As noted in previous chapters, the complexity of the Earth System is such that there are great uncertainties about what will happen if additional planetary boundaries are crossed and what implications crossing such boundaries may have for current life-forms (including humans) that depend on the biosphere remaining habitable for them. As Fletcher states the case:

... research is needed to investigate the key question raised by this analysis: To what extent does all of this actually contribute to effectively mitigating the climate change impacts it purports to address? After all, critics question whether carbon markets truly

²³⁰ In addition, and as discussed in Chapter 6, climate action movement NGOs associated with CAN-I are collaborating with financial interests to help create these new profit opportunities.

effect a net emissions reduction or merely conceal continued carbon production through sleight-of-hand accounting.

(Fletcher 2012, p. 108)

Fletcher extends the example of the failure of carbon trading to decrease GHG emissions to how other projects (such as hydroelectric dams), while being promoted as decreasing GHG emissions, actually release methane that results in even larger CO₂-equivalent GHG emissions. These examples lead Fletcher to argue that “Dynamics such as this demand further investigation in order to assess the extent to which the swiftly growing campaign to address climate change through neoliberal carbon market mechanisms is in fact capable of contributing to an effective resolution of the impending crisis rather than merely stimulating capitalist expansion” (*ibid.*, p. 109). Empirical research of this nature is also necessary if one is to more effectively counter arguments made by proponents of ecological modernization (or ‘ecomodernism’) and the theorists whose work is used to support their project, such as those associated with ‘production of nature,’ ‘radical social constructionist hybridity’ and ‘radical social monist’ perspectives. The ideological contestations between ecosocialists and ecomodernists are discussed in more detail below.

Contesting ideas: Ecosocialism vs. Ecomodernism

Promoting the extension and intensification of capitalist relations of production and technology as the best ways to address contemporary environmental crises, ecological modernisation theory stands in direct opposition to ecosocialism. The brand of ‘post-environmentalist’ ecological modernisation founded by Ted Nordhaus and Michael Shellenberger, which is the focus of debates discussed here, commences from their critique of the major US environmental organisations as espoused in a 2004 ‘influential and controversial’ pamphlet, *The death of environmentalism: Global warming politics in a post-environmental world* (Buck 2013). While many environmentalists also criticised the major ENGOs for their complicity with the US government’s failure to legislate strong environmental measures (refer to discussion in Chapter 6), Nordhaus and Shellenberger’s critique of

environmentalism takes a very particular form: it criticises US environmentalists for lacking a large ‘patriotic’ vision to help them build alliances with government, business and civil society in order to support economic growth and develop the technologies they see as necessary for solving environmental crises.²³¹ The ecomodernist ‘post-environmentalist’ label signals this perspective’s affinity with postmodern and ‘production of nature’ theoretical perspectives, which Foster argues serve the purpose of sowing confusion about the causes of environmental degradation in order to gain credibility for their project and win over supporters from the wider Left.²³²

Foster identifies the ‘production of nature’ perspective associated with intellectuals such as Neil Smith and Noel Castree as a separate ‘influential tradition’ of environmental thinking that developed in the 1980s and 1990s within the discipline area of ‘radical geography’ (Foster 2016a, p. 396). Replacing Schmidt’s ‘negative critique of the domination of nature’ with what was claimed to be a ‘more positive view of the production of nature’ ultimately led to what Foster refers to as “a left social constructionism and social monism, merged with political-economic perspectives, in which *nature was seen as subsumed within society*” (*ibid.*; emphasis added). Overlapping with Bruno Latour’s emphasis on the “‘hybridity’ of society and nature,” and drawing on long-standing philosophical debates over Cartesian dualism, radical social constructionist and social monist theorists argue that, despite his dialectical perspective, Marx ‘fell prey’ to ‘nature-society dualism’ and that Marxism is therefore ‘fatally flawed’ because its founders “failed to perceive the emergence of a hybrid world.... populated by networks of machines, artifacts, cyborgs, etc. or as Latour says ‘monsters’” (*ibid.*, pp. 396 – 397). The political implications of this perspective are evident in how these ideas are used to justify the ecomodernist project (*ibid.*, p. 398). In a talk Latour gave at the Breakthrough Institute, for

²³¹ Refer to Shellenberger & Nordhaus (2004) and the Breakthrough Institute document, *An Ecomodernist Manifesto* (Asafu-Adjaye *et al.* 2015), for original accounts of the arguments this group of ‘ecomodernists’ present.

²³² Refer to Angus (2015) for the way in which ecomodernist attempts to appropriate the meaning of the Anthropocene also aim “to sow confusion by promoting a caricature that has nothing to do with the actual Anthropocene and everything to do with preserving the status quo.”

example, he said that “... the object today should be to ‘Love Your Monsters’ (2012),” an idea Foster elaborates on as follows:

In this view, ‘imbroglios’ or ‘technological monsters’, modern versions of Mary Shelley’s *Frankenstein*, are a normal part of our relation to nature, and we should accept them and their consequences, while rejecting environmentalism in favour of ‘political ecology’ that consciously internalizes or bundles nature.

(Foster 2016a, p. 398, citing Latour 2004)

Foster (*ibid.*) points out that Latour’s views align with the thinking of Nordhaus and Shellenberger, who do not accept any notion of natural limits to capital accumulation and unlimited growth but propose a ‘breakthrough’ in terms of a ‘post-environmentalism’ that emphasises technological and market-based solutions to environmental crises. It should be noted, however, that although Foster (*ibid.*) does not discuss this, Bruno Latour joined the chorus of other critics of the Breakthrough Institute’s ecomodernist project who published their critiques in Volume 7 of the journal *Environmental Humanities* (2015). Critiques of the Breakthrough Institute’s ecomodernist theorists in that journal include the way in which they present simplistic arguments that are not empirically supported while simultaneously ignoring existing empirical evidence that contradicts their arguments, and the way in which their arguments are incoherent and sometimes even inconsistent with their own stated goals of ‘saving the environment’ (Buck 2013; Hamilton 2015, 2017; Latour 2015; Monbiot 2015; Szerszynski 2015). In his contribution to this collection of critiques, in an article entitled *Fifty Shades of Green*, Latour (2015, p. 220) expresses his misgivings about “...this monster, ‘ecomodernism,’ that I am not sure we should learn to love, and that triggers in me, I have to confess, a deep antipathy.” One of the points Latour emphasises in this paper is the failure of the ecomodernists to understand the significance of the Anthropocene, a point that Clive Hamilton focuses on in his critique of the Breakthrough Institute’s vision of ecomodernism.

Clive Hamilton, Professor of Public Ethics and well-known author of many books trying to alert the public to the dangers of geo-engineering, presents a particularly scathing assessment of ecomodernists who refer to a ‘good Anthropocene’ (an

oxymoron that Hamilton emphasises is both inappropriate and dangerous) and who welcome the opportunities a disturbed Earth System present “to prove our ingenuity and technological facility” (Hamilton 2017, pp. 22 – 23). Hamilton’s critiques of these ecomodernist arguments succinctly describe both the philosophy informing this project as well as the dangers it poses:

For the ecomodernists, instead of final proof of the dangers of hubris, the new epoch is greeted as a sign of humankind’s ability to renovate and control nature.... In this eco-Promethean view, the Anthropocene is not evidence of human short-sightedness or foolishness, nor of global capitalism’s rapaciousness, but presents an opportunity for humans finally to come into their own.... For the ecomodernists, if we are capable of developing technologies to control the climate and regulate the Earth as a whole, then why not? Planetary engineering reframes global warming. No longer a vindication of environmentalist warnings that humans have gone too far, climate change becomes the spur to final victory for the human mastery project.

(Hamilton 2017, pp. 23 – 24)

Hamilton argues that not only are the technological fixes ecomodernists propose for a ‘good’ Anthropocene unlikely to work, they also constitute a continuation along a course that will exacerbate unpredictable and dangerous shifts in the Earth System:

... we cannot know the ultimate outcome of the Anthropocene because it is beyond our capacity to predict the Earth System’s behavior and beyond our capacity to control it, the more so after the recent rupture to its functioning.... in the transition from the Holocene to the Anthropocene new forces have been unleashed that we can only ever understand imperfectly, and regulate even less. Yet it is not only the... unwillingness of the Earth System to subject itself to human regulation that upends the ecomodernist position, but also their curious unwillingness to acknowledge the manifest failure of humans to create social structures and institutions consistent with the sustained flourishing of the biosphere we inhabit, and their determination to continue making worlds that are incompatible with the possibilities provided by the Earth.

(Hamilton 2017, pp. 70 – 71)

In addition to identifying the flaws in ecomodernist thinking, Hamilton also critically analyses several other theorists’ positions on the disruption of the Earth System’s functioning, including Jason Moore’s thesis that the origins of this outcome lie in the

‘Nature/Society binary’ that lies at the heart of the modernist project.²³³ Hamilton argues that Moore’s epistemology, which “blurs the distinction between scientific facts and social facts,” leads to an ‘impossible contradiction,’ and that such thinking is not uncommon in contemporary social science disciplines:

That Moore cannot distinguish between geological history and human history is symptomatic of much contemporary critical social science. He takes to its extreme the argument that we must dissolve all Cartesian dualisms, that is, the divide between nature and culture, pursuing an ontological flat-land of entanglement.... Transcending science altogether, Moore ends up rejecting the claim that we are living in the Anthropocene because it is ‘a curiously Eurocentric vista of humanity.’ And the determination to reject all dualisms sees him challenging the foundational scientific claim that ‘humans are overwhelming the great forces of nature.’ We cannot overwhelm nature when we are indistinguishable from it. How could social science come to this? The impossible contradiction in Moore’s position now becomes clear. On the one hand, he wants to deny humans their power and special place with a ‘post-humanist’ embedding of humans in nature; on the other hand, he wants to define the new epoch in terms of historical relations of human power and exploitation.”

(Hamilton 2017, pp. 96 – 97)

Hamilton’s critiques of ecomodernist thinking touch on some of the core issue that concerns ecosocialists about this philosophy: the way in which aspects of postmodern thinking open it to appropriation as a tool by those who seek to spread confusion and thereby remove attention from both the causes and the severity of the environmental damage caused by the Great Acceleration. As Foster (2016a, p. 401) points out, Moore deploys his rejection of ‘Cartesian binaries’ to critique ecosocialist theorists who use Marx’s concepts of the universal metabolism of nature, social metabolism, and the metabolic rift in their dialectical analyses critiquing capitalism’s environmental destruction. In opposition to the ‘binaries’ of ‘nature’ and ‘society’, Moore:

...substitutes his own ‘singular metabolism,’ which is nothing other than the idealized capitalist notion of the market expanded to encompass the entire web of life. This view adamantly rejects the whole notion of ‘natural limits,’ or the idea that in numerous cases ecological ‘limits are outside of us’... constituting insuperable barriers to production.... To point to antagonistic relations between

²³³ Moore’s key work is *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (2015).

capitalism and nature (or to conceive of nature as apart from society even by means of abstraction) is for Moore... to fall prey to the 'Cartesian divide.'

(Foster 2016a, p. 405)

In an interview with Ian Angus, the transcript of which was published on the ecosocialist website Angus founded and edits, *Climate & Capitalism* (climateandcapitalism.com), Foster concludes that Moore may have set off to 'update or deepen Marxism' but has, instead, "...ended up by abandoning Marxism's revolutionary essence and adapting to capitalist ideologies" (Angus & Foster 2016). The rejection of historical materialist dialectics and critical realism on the grounds that this analytical framework constitutes a simplistic 'Cartesian dualism' ultimately leads to a social monism that is incapable of understanding the "complex mediations between nature and society within a dialectical concept of totality" (Foster 2016a, p. 399). Even more problematically, Foster points out that "for many social constructionists, radical postmodernists, and left idealists, the problem of nature is essentially eliminated through its subordination to society," as is natural science itself "since natural processes are now to be treated as internal to the social dialectic" (*ibid.*, pp. 399 - 401). In contrast to radical social monist positions, the historical dialectical materialism developed by Marx and Engels provides a powerful analytical tool that accounts for and accommodates "dynamics, complexity, contradiction, emergence, and transformation in the analysis of the world at large" (*ibid.* p. 414), enabling Marx to analyse the way in which human labour, as a necessary activity that mediates between humans and nature, causes metabolic rifts in natural biophysical cycles and processes under capitalist relations of commodity production.²³⁴ Second-stage ecosocialists highlight the relevance of Marx's metabolic rift analysis to explaining the way in which late capitalism causes ecological rifts on a planetary scale, as discussed in more detail below.

²³⁴ Foster (2016a, p. 414) cautions that the complex method of dialectical materialism developed and deployed by Marx and Engels should not be confused with "the dogmatic, mechanical views that were sometimes crudely advanced in the Soviet Union under this label."

Marx's ecology: metabolic rift analysis

Referring to a range of his writings, Foster and Clark (2016) point out that Marx incorporated German chemist Justus von Liebig's concept of 'metabolism' in his critique of political economy.²³⁵ Marx refers to the *biophysical cycles and processes* that "constitute and help regenerate ecological conditions" as the 'universal metabolism of nature,' an 'earthly metabolism' within which humans exist as they continually interact with the natural environment to meet their needs and produce goods and services, and he refers to the *labor process* (which includes "exchanges with ecological systems") as the 'social metabolism' (*ibid.*, p. 15). Marx argues that different modes of production generate 'distinct social metabolic orders' and, unlike in previous socio-ecological systems, the social metabolism of capitalist commodity production "generates ecological crises, manifesting as a 'rift' in the metabolism between society and nature (or disjunctions within both the social metabolism and the wider universal metabolism)" (*ibid.*). In the capitalist mode of production, which is defined by a 'compulsion to accumulate,' capital's needs "are imposed on nature, increasing the demands placed on ecological systems and the production of wastes" and creating what Marx refers to as a 'metabolic rift' (*ibid.*, p. 16).

Marx's insights about the metabolic rift that results from capitalist commodity production and its spatial organisation are evident in his writings about the most serious ecological issue attracting the attention of scientists in his lifetime: the issue of soil fertility. Providing a historical account of how soils retained their fertility in pre-capitalist modes of agricultural activity by recycling both animal and human waste in the soils where food was grown because it was consumed at the same place or nearby, Marx analyses how capitalism transformed this particular metabolic interchange with reference to the enclosure movement that forced peasants off the land, alienating them from their means of production so that they had to seek employment in the industrial centres located in towns. The greater separation between town and country that the new industrial systems necessitated also led to

²³⁵ In the extracts referred to here, Foster and Clark (2016) reference Marx's *Text on Methods, Economic and Philosophical Manuscripts, Poverty of Philosophy*, and *Capital* Volumes 1 and 3.

the transfer of soil nutrients from one location to another “as food and fibre from farms were increasingly shipped to distant markets” (*ibid.*). The expansion of capitalist relations of production thus alienated the producers from nature and simultaneously led to both the ‘squandering’ of nutrients and increased levels of pollution in the towns and rivers that had to absorb the wastes (*ibid.*). In addition, Marx also discusses the way in which profit-maximising capitalist agricultural production practices “increased the scale of operations, transforming and intensifying the social metabolism while exacerbating the depletion of the soil nutrients” (*ibid.*). Citing Marx (*Capital Volume 1*), Foster and Clark (2016, p. 17) draw attention to his argument that capitalism thus creates “...a metabolic ‘rift’ in the soil nutrient cycle, ‘robbing the soil’ and ‘ruining the more long-lasting sources of that fertility’.” This theme recurs throughout Marx’s writing, and in *Capital Volume 3* he argues that:

...the drive to capital accumulation ‘reduces the agricultural population to an ever decreasing minimum and confronts it with an ever growing industrial population crammed together in large towns; in this way it produces conditions that provoke an irreparable rift in the interdependent process of social metabolism, a metabolism prescribed by the natural laws of life itself. The result of this is a squandering of the vitality of the soil, which is carried by trade far beyond the bounds of a single country’

(Marx, cited in Foster & Clark 2016, p. 17)

Marx also writes about how attempts to compensate for the loss of soil fertility in England by importing “millions of tons of guano and nitrates from Peru and Chile” constitute a form of ‘ecological imperialism,’ contributing to a ‘global metabolic rift,’ and he notes how such ‘artificial solutions’ compound the overall environmental degradation that is a by-product of intensive agricultural production (Clark & Foster 2010a, p. 146). Marx’s analysis of the nineteenth-century ecological crisis of soil depletion constitutes a valuable illustrative case study of how to apply the method of ecological materialism to analyse contemporary ecological issues, as many third-stage ecosocialists have done. Moreover, Foster and Clark (2016, p. 22) argue that the “enduring value of Marx’s ecological materialism... is that it points in a co-evolutionary and co-revolutionary direction – highlighting the need for a new order

of social metabolic reproduction rooted in substantive equality.” Expanding on this point, they state:

Here social and natural necessity, natural science and social science, humanity and the earth become one human-mediated totality, in a wider universal struggle – one pointing to a revolutionary dialectic of humanity and the earth in which the necessary outcome is a world of sustainable human development. It is this higher synthesis of the various Marxian ecological and social critiques – building on the foundations of historical materialism – that we are most in need of today.

(Foster & Clark 2016, p. 22, Footnote 121)

It is towards this end that third-stage ecosocialists apply Marx’s method of ‘ecological materialism’ to analyse contemporary environmental crises and thereby advance the theoretical understanding that ecosocialist activists within the climate justice movement need in order to inform their strategies and tactics. Before proceeding to discuss ecosocialist activism in the next chapter, I provide a brief overview of some of the issues that third-stage ecosocialist analyses address.

Third-stage ecosocialism

In her book, *The Political Economy of Global Warming: The terminal crisis*, Del Weston (2014, p. 7) uses the analytical tools of classical Marxism that integrate metabolic rift analysis to discuss how anthropogenic global warming “is just one of a number of converging and accelerating symptoms of a planet plundered beyond its capacity to repair, regenerate and sustain life and civilisation as we have known it over the last 10,000 years of the Holocene epoch.”²³⁶ Weston (*ibid.* p. 61) argues that “...the Marxist historical account of the development of capitalism is critical to an understanding of the political economy of global warming” for three interrelated reasons:

First, to understand the inseparable dichotomy between accumulation and dispossession and to address this division so there can be justice for all impoverished peoples around reparations for ecological debt – a prerequisite to any solution to global warming. Second, as a basis for understanding and changing the systemic structural underpinnings of global warming. Third, to enable the development of new political economy structures which avoid the pitfalls of capitalism. One can only understand the causes of global

²³⁶ Weston’s book was published posthumously, after she died in tragic circumstances in 2012.

warming by understanding and then critiquing its political economy. Then one can begin to build alternatives that address the causes of global warming and not just those of selective symptoms.

(Weston 2014, p. 61)

In this paragraph, Weston establishes the way in which Marxist theory links to practice, and this understanding is what informs all third-stage ecosocialist analyses of the interrelated crises engendered by the capitalist system, whose environmental destruction now extends throughout the entire Earth System (including its human component).

Third-stage ecosocialist analyses thus bridge the gap between the more academic and specialist debates between first-stage and second-stage ecosocialist writings on the one hand, and activists engaged in on-the-ground political activity on the other. The distinction between theoreticians and activists is not so clear-cut, however: some third-stage ecosocialist authors are not only academics but also climate justice activists, with Chris Williams being one such example. In addition to Williams's *Ecology and Socialism: Solutions to capitalist ecological crisis* (2010), other popular ecosocialist texts that provide general critiques of capitalism's social and environmental harms include Joel Kovel's *The enemy of nature: The end of capitalism or the end of the world?* (2007), Michael Löwy's *Ecosocialism: A radical alternative to capitalist catastrophe* (2015), Daniel Tanuro's *Green capitalism: Why it can't work* (2013), and Brian Tokar's *Toward Climate Justice: Perspectives on the climate crisis and social change* (2014).²³⁷ In addition to providing broad overviews of the way in which capitalism is inherently both exploitative and anti-ecological, another approach taken by third-stage authors is to focus their analysis more specifically on particular issues, as Stefano Longo, Rebecca Clausen and Brett Clark do in their book *The Tragedy of the Commodity: Oceans, Fisheries, and Aquaculture* (2015) and Ian Angus does in *Facing the Anthropocene: Fossil capitalism and the crisis of the earth system* (2016).

According to Foster (2016a, p. 413, citing Meadows *et al.* 1972), it was István Mészáros, a student of renowned Marxist Georg Lukács, who provided "the first

²³⁷ This is just a very small and randomly selected sample of the many ecosocialist monographs that have been written.

comprehensive Marxian critique of the emerging planetary ecological crisis in his 1971 Deutscher Prize Lecture – published a year before the Club of Rome’s *Limits to Growth*.²³⁸ In this lecture, Mészáros “argued that the waste-based accumulation characterizing US monopoly capitalism could not be expanded globally without breaking the ecological budget of the entire planet” (*ibid.*). While Mészáros’ work is not easily accessible to a non-academic audience due to the complexity of the concepts he discusses, Ian Angus’s book on the Anthropocene provides a very clear account of the implications of the planetary metabolic rift that has resulted in this new geological epoch and, most importantly, what responsibilities these developments place on ecosocialists. The exemplary way in which Ian Angus has explained the Anthropocene is evident in the fact that Clive Hamilton, who contends that most people simply do not understand this new geological epoch’s radical implications, has praised Angus not once, but twice in his book, *Defiant Earth: The fate of humans in the Anthropocene* (Hamilton 2017) for conveying these clearly.²³⁹ Moreover, the value of Angus’s work in publishing this book is also evident in the many ecosocialist discussions it has initiated. In addition to writing books that are easily accessible to the general public and are also widely read by activists, ecosocialists write articles on a variety of topics, including on current events. They also participate in climate movement activist debates about strategies and tactics that are appropriate for supporting and furthering the project of achieving radical climate justice, as discussed in more detail in Chapter 8.

²³⁸ The Deutscher Prize is awarded annually to the author of “the book which exemplifies the best and most innovative new writing in or about the Marxist tradition,” and which was awarded to István Mészáros in 1970 for his book *Marx’s Theory of Alienation* (<http://www.deutscherprize.org.uk/wp/>, n.d.).

²³⁹ Hamilton (2017) describes Angus’s overview of the science as ‘superb’ (*ibid.*, p. 10) and later says “Ian Angus presents a Marxist view of the Anthropocene that, whatever one may think of the politics, stays true to the new science of the Earth System “ (*ibid.*, p. 20).

Chapter Eight: Ecosocialists and the Climate Justice Movement

“There are no guarantees. Marxism is not deterministic. An ecosocialist revolution is not inevitable. It will only happen if people consciously decide it is necessary, and take the steps needed to bring it about. Marx and Engels posed the alternative: the class struggle will lead either to ‘a revolutionary reconstitution of society at large’ or to ‘the common ruin of the contending classes.’ In the Anthropocene, the common ruin of all, the destruction of civilization, is a real possibility. That’s why we need a movement with a clear vision, an ecosocialist program that can bridge the gap between the spontaneous anger of millions of people and the beginning of an ecosocialist transformation... The longer it takes to get the necessary changes under way, the more difficult the transformation will be.”

(Angus 2016, p. 222)

Introduction

Having provided an overview of the key points of contention in academic theoretical debates between ecosocialists in Chapter 7, in this chapter I discuss how these debates manifest at the level of activism on questions regarding strategy and tactics. My discussion of debates about strategy and tactics focuses specifically on how these relate to ecosocialist contributions to furthering the aims of the radical climate justice movement. After a general overview of the kinds of issues generating discussion among ecosocialists, I illustrate the ways in which debates about strategy and tactics unfold by conducting a more detailed analysis of three case studies. The first case study involves a debate about whether or not ecosocialists should support carbon trading as a means of reducing GHG emissions, the second case study discusses the reasoning underlying the decision of ecosocialist activists to support a strike by workers in the fossil fuel industry, and the third case study examines the debate between ecosocialists and climate justice activists in the wider climate justice movement on appropriate strategies and tactics to be adopted at the COP-21 2015 climate negotiations in Paris. These debates were selected as foci because the first demonstrates ecosocialist views on market mechanisms (the ‘false solutions’/‘real solutions’ issue within the climate justice movement discussed in Chapter 6), the second demonstrates ecosocialist views about the role of the working class in struggles to mitigate and adapt to climate change, and the third demonstrates

ecosocialist attitudes towards the formal climate change institutions and the extent to which their ideas influence the broader climate movement. While ecosocialists aim to assist in building a broad based movement that resists capitalism, in Chapter 9 I suggest that this movement could be strengthened if ecosocialist oppositional tactics were complemented with prefigurative strategies and tactics linked to new modes of economic production. I begin the discussion in this chapter with a brief overview of the material capabilities (or resources) of the North American ecosocialists I focus on in my research, including the *System Change Not Climate Change* (SCNCC) ecosocialist coalition.

Social dynamics: Ecosocialist material capabilities

I begin with the assumption that the strength of social movements (or their ‘material capabilities’) lies in the extent to which they are able to garner support for their aims and ideas and members for their movements rather than in their access to material resources (which, in class societies, will always favour their opponents - those who have economic wealth and other material resources). With reference to progress made in the ‘war of position,’ the influence of ecosocialist ideas within the climate movement (and within the wider community of social movement activists) is thus the measure I use to gauge ecosocialist material capabilities.

One indicator that ecosocialist ideas have gained ground within the climate movement is the way in which they have shifted from debates within the academy (as discussed in Chapter 7) and are now used by many climate movement activists to inform their analyses of the causes of, and potential solutions to, climate change. The adoption of ecosocialist ideas is also evident in the fact that various explicitly-named ‘ecosocialist coalitions’ are currently active in both North America and Europe, with the North American groups only emerging in their present coherent form after the first decade of the 21st century. Two events point to the year 2007 as being significant in this respect in that it signalled efforts by activists to form coalitions calling for ‘system change’ (rather than system reform): the formation of the *Climate Justice Now!* (CJN!) coalition in December 2007 at COP-13 in Bali (as

discussed in Chapter 6) and, predating the formation of this coalition by two months, the attempt to establish an international ecosocialist coalition.

While attempts to form an international ecosocialist coalition date back to October 2007, when more than sixty ecological activists from twelve countries met in Paris and inaugurated the Ecosocialist International Network (Climate & Capitalism 2007; EIN 2017), one of the founders of this network acknowledges that it had ‘obvious weaknesses’ – in particular, its lack of representativeness: “the great majority of attendees were from left groups in western Europe, and only a handful came from the global south” (Angus 2008). In a 2016 interview, Ian Angus also emphasised his conviction that the Ecosocialist International Network’s (EIN) greatest weakness was that it was a ‘top-down’ attempt to form an organisation, and that for this reason it was bound to fail (personal communication 2016). The EIN nevertheless constituted what Angus (2008) describes as “a big step forward for the ecosocialist current” in that it constituted an initial attempt to build a movement that could act on the emerging ‘ecosocialist project’ outlined in the *First Ecosocialist Manifesto* authored by Michael Löwy and Joel Kovel and published in 2001.²⁴⁰ One outcome of the 2007 EIN meeting was the *Draft Second Ecosocialist Manifesto* developed by Kovel, Löwy and Angus, and publicly discussed on a ‘yahoogroups’ EIN forum convened by a four-person committee whose members included women, people from the Global South (Brazil), and younger people (Angus 2008). The document that emerged from these discussions, entitled *The Belem Ecosocialist Declaration*, was endorsed “by hundreds of people from dozens of countries” (Löwy 2015, p. xiii) and presented at the 2009 World Social Forum (WSF) in Belem, Brazil (EIN 2009).²⁴¹

While the EIN represents a significant milestone in the development of ecosocialist activism, as discussed in Chapter 6 there is no simple ‘origin story’ (Taylor 2008) through which one can trace the history of social movements or groups such as the

²⁴⁰ Refer to Löwy (2015, pp. 77 – 82) for a copy of the *First Ecosocialist Manifesto*.

²⁴¹ The annual WSF was established by social movement activists in 2001, and is described as a ‘dynamic process’ that “operates autonomously from the interstate system and has become the leading focal point for transnational mobilization and interchange among movements”; it aims “to build transnational and cross-sectoral movement alliances and encourages ongoing efforts to link local struggles with a critique of the global neoliberal economic order” (Smith & Wiest 2012, p. 2).

System Change Not Climate Change (SCNCC) ecosocialist coalition. The complex origins and alliances of the contemporary 'ecosocialist current' within the broader climate movement are evident in how, according to information in an SCNCC pamphlet, some ecosocialists were involved in the alter-globalization movement that emerged in the 1990s as well as in how ecosocialist ideas and solidarity actions are informed by indigenous environmental justice activist groups and by grassroots movements such as the Landless Workers' Movement in Brazil and the food sovereignty movement represented by La Via Campesina, a worldwide organisation uniting peasant and subsistence farmers (SCNCC n.d.). While all this history constitutes the background to the formation of SCNCC, the coalition itself emerged in its present form after the 20 April 2013 Ecosocialist Conference organised by the 'Ecosocialist Contingent' that had participated in the 17 February 2013 *Forward on Climate March* campaign, a mass demonstration held in Washington D.C. against the Keystone XL tar sand pipeline (Angus *et al.* 2013; Climate & Capitalism 2013).

SCNCC describes itself as: "... a joint Canadian and US coalition of ecosocialists and fellow travellers united in the belief that capitalism is driving climate change and that a radical international grassroots movement can stop it" (SCNCC 2017e). Having participated in various campaigns as the 'Ecosocialist Contingent' and then 'System Change Not Climate Change' for 'roughly a year,' ecosocialists organised a conference in New York City in 2013 that featured speakers "from across the leftish spectrum," some of whom went on to form SCNCC as it currently exists (SCNCC n.d.; see also Ecosocialist Conference 2013, Ecosocialist Contingent 2013, and Zill & Ware 2014).²⁴² The SCNCC coalition is organised in chapters located in different cities or regions in the US and Canada, with members participating in monthly conference calls to coordinate their activities and discuss future plans (SCNCC n.d.). While some members of SCNCC belong to other political organizations such as the *International Socialist Organization*, *Solidarity*, and the *Green Party*, others are independent and,

²⁴² Prominent ecosocialists advertised to speak at this conference included Joel Kovel, Fred Magdoff, Brian Tokar, Chris Williams, Richard Smith and John Riddel (Ecosocialist Conference 2013). Other prominent speakers included labour activists and authors Sean Sweeney and Jeremy Brecher, and US Green Party nominee for the 2012 and 2016 presidential campaigns, Jill Stein (*ibid.*).

in recognition of the differences between members, the coalition focuses on ‘areas of agreement’ in their struggles for environmental and social justice (*ibid.*, p.7). The issues on which SCNCC members agree are embodied in six ‘points of unity’ that were developed “as a step towards overcoming the sectarianism that has dogged the Left” (*ibid.*).

The points of unity that SCNCC members agree on are that they: see capitalism as the cause of the current ecological crisis; see exploitation in all its forms as being intricately linked, and therefore oppose “all forms of oppression including racism, sexism, xenophobia, homophobia and transphobia” in their struggles to stop “the exploitation and destruction of the planet”; share a vision of a future “free, just, and equitable [society] that fosters human creativity and productivity while healing the rifts generated by capitalism among people and between human society and the earth’s ecology”; are open to supporting reformist campaigns such as those initiated by organisations such as 350.org, FoE and Greenpeace in order to address ‘immediate ecological concerns’ while working towards the fundamental system change that is required for building a truly sustainable society in the long term; oppose ‘green capitalism’ and support alternative political formations such as grassroots movements rather than “the capitalist-controlled two-party system”; and adopt a non-sectarian stance “in order to build as strong an environmental movement as possible” (*ibid.*, pp. 7 - 8). In Gramscian terms, these points of unity represent ecosocialist attempts to work with other groups and individuals in constructing a counter-hegemonic bloc to challenge capitalism. The discussion in this chapter analyses these contributions to the global ecosocialist project of conducting a Gramscian war of position on the terrain of civil society, whereby dominant ideas regarding the causes of, and solutions to, the current organic crisis discussed in detail in Chapter 4 are challenged.

Ecosocialist ideas are developed, refined, and disseminated through various online media, including websites, video conferences, public book launches, social media such as *Facebook* and *Twitter*, and video recordings of meetings and conferences that are shared via online media platforms such as *youtube* and *vimeo*. The use of ICTs can therefore be seen as one tactic whereby ecosocialists engage in the war of

position to present their system-critical arguments about the causes of, and solutions to, the current organic crisis of global capitalism. I analyse the specific content of these online communications and interactions to determine ecosocialist understandings of strategy and tactics. The two most significant ecosocialist websites in North America are *Climate & Capitalism* (climateandcapitalism.com), and SCNCC's website (systemchangenotclimatechange.org). Examples of the sort of material published on these websites include articles about climate science and about environmental campaigns as well as articles outlining ecosocialist theory and action, including crucial debates about strategy and tactics.

While the SCNCC website largely acts as a clearing house for climate change- and climate justice-related information published elsewhere (with occasional original articles not published elsewhere), *Climate & Capitalism* publishes many original articles written by ecosocialist activists and academics. Collaboration between various North American ecosocialist groups and projects is evident in the fact that the SCNCC website has direct links to articles published on the *Climate & Capitalism* website and in *Climate & Capitalism's* alliance with the prominent ecosocialist journal *Monthly Review*, with which it explores "ways to increase both technical and political collaboration" and shares technical resources (Angus n.d.). There are also links on both the SCNCC and *Climate & Capitalism* websites to articles published on a variety of other alternative political organisation websites, such as those of *Socialist Project* (socialistproject.ca) and *Solidarity* (solidarity-us.org). While the *Climate & Capitalism* website offers readers opportunities to comment on the content it publishes and the SCNCC website does not offer such opportunities, a new feature added to SCNCC's website in June 2017 is a forum which is already generating much lively discussion. It is through such online communications that ecosocialist strategy and tactics are actively debated and co-developed in a way that is available to a global audience and invites input from this audience, and examples of such debates are explored below.

Social dynamics in building counter-hegemony: Ecosocialist strategies and tactics

As discussed in Chapter 6, in direct opposition to the moderate climate action movement's generally reformist positions, the radical climate justice movement's understanding of capitalism as the cause of the current ecological, social, economic, and political crises leads it to conclude that climate change and other equally important problems can only be addressed by fundamental 'system change.' Thus the radical climate justice movement sees the solutions to the issue of climate change proposed by supporters of the moderate climate action movement as being fundamentally 'false solutions,' although some of these solutions are perceived as necessary interim or transitional measures that should be pursued to mitigate further climate change. As some critical theorists (for example, see de Lucia 2014) emphasise, however, this support of transitional measures is risky as it opens up avenues for the moderate climate movement to co-opt the radical climate justice movement and can ultimately lead to *trasformismo*.

One of the central challenges faced by climate justice activists is, therefore, how to build alliances with other climate movement actors while avoiding co-optation and continuing to focus their efforts on promoting 'real solutions' that are not only effective in maintaining a habitable planet but are also socially just. As stated in Chapter 6, I argue that ecosocialist analyses and theoretical contributions are very valuable in this respect. One of the articles written by prominent ecosocialist activist-academic and author, Chris Williams, addresses the issue of strategy and tactics and refers to an example of the sort of tactics that build a stronger and more effective climate justice movement as opposed to tactics that legitimise the existing system of unequal power relationships. Williams's discussion is summarised below as an introduction to the issue of ecosocialist ideas about strategy and tactics.

Ecosocialist activism: Strategy and Tactics

In a 2013 article entitled *Strategy and tactics in the environmental movement* and published on the *Climate & Capitalism* website, Chris Williams provides the following definitions from the *New Webster's Comprehensive Dictionary*:

Tactics: the science and art of using a fighting force to the best advantage having regard to the immediate situation of combat.
Strategy: the science and art of conducting a military campaign in its large-scale and long-term aspects.

Referring to a debate sparked by 'prominent climate blogger Joseph Romm,' who advised that Naomi Klein's soon-to-be-published book, *This changes everything: Capitalism vs. the climate*, be ignored on the grounds that Klein's views are "filled with contrarian 'media bait' statements devoid of substance," Williams argues that "the single and vitally important question" that the broader debates boils down to is the question:

what is the most effective terrain, and with which combination of troops and allies, should the environmental movement engage with opposing forces in order to emerge victorious?

Rephrasing this question later on in the article, Williams asks:

How can we both fight for meaningful change right now (tactics) that simultaneously helps build the movement and brings us closer to our larger, more long-term goals (strategy)? How do we differentiate between effective tactics that supplement our overall strategy, versus those that lead us up blind alleys?

Acknowledging the shortcomings of the analyses of groups such as 350.org regarding the causes of climate change, and the limited potential of reformist efforts such as the fossil fuel Divestment Campaign to effect the changes necessary to decisively address climate change, Williams argues that the most important contribution socialists and radicals can make is nevertheless to join such struggles and help to play a role in how the many new organisations popping up around the issue of climate change develop:

... the most important thing is to dive into the resistance as and where it currently exists and consistently engage with the fight for... immediate goals of campaigns such as those calling for universities and pension funds to divest from fossil fuels and attempts to shut down the KXL oil pipeline.

(Williams 2013)

At the same time, however, Williams warns that radical activists should hold ‘no illusions’ that participating in such campaigns is sufficient. While it is important to achieve short-term and limited victories because of the optimism and motivation these engender, Williams emphasises that *how* these victories are achieved (in other words, which tactics are followed) is crucial, and that ecosocialists should be participating in discussions about strategy and tactics:

A court victory achieved by NGO lawyers working in a social vacuum is completely different to a court victory achieved on the backs of mass mobilization, as illustrated by the civil rights movement.... We should be part of all the discussions now going on in the movement about tactics and strategy, suggest alternatives, make the case for actions that will draw in more participants, and create links with frontline communities of color and indigenous rights, while working with the bigger organizations where we are able. Where we have criticisms, we should voice them; in my experience they will likely find a strong echo. The ever more desperate ecological and economic situation is in itself driving people toward the need for more radical, systemic change.

(Williams 2013)

As these extracts demonstrate, ecosocialists try to further their overall strategic aim of helping to bring about radical system change by participating in public debates such as this one. Williams’s contribution in this article demonstrates that ecosocialists understand one of their primary roles within the wider climate justice and global justice movements as being to support and join with existing campaigns that attempt to mobilise more people and build a large and effective climate movement while simultaneously engaging in discussions with their fellow activists about the causes of, and solutions to, climate change in ways that provoke critical thinking about these issues. The tactic of joining existing organisations and groups that are working on a variety of social justice issues (rather than creating new, specifically ecosocialist, organisations) is also consistently emphasised by other ecosocialists such as Ian Angus (2011; personal communication 2016), Benjamin Silverman (Angus, Riddell, Proyect & Silverman 2013) and Gemma Weedall (2013).²⁴³

²⁴³ Ian Angus repeats this message consistently in many of his presentations and also emphasised it in our interviews, during which he explained that there is no ‘ecosocialist movement’ as such (an erroneous idea I had when I commenced my research project)

As Ian Angus stated in his keynote presentation at the *Climate Change Social Change Conference* held in Melbourne in 2011:

... [one] lesson we can learn from the 20th century is that monolithic socialist grouplets [sic] do not turn into mass movements. They stagnate and decay, they argue and they split, but they don't change the world. So I want to emphasise that I am not urging you to rush out and found yet another sect. Ecosocialism is not a separate organisation, it is a movement to win existing red and green groups and individuals to an ecosocialist perspective.

(Angus 2011, p. 14)

The seriousness with which ecosocialists approach the challenge of formulating appropriate strategies and tactics is evidenced in the many ongoing discussions related to these issues; thus, for example, in 2014 the group *Solidarity* established an 'Ecosocialist Working Group' that formulated six questions (later adding a seventh) around which to focus such discussions (Solidarity 2015; see also SCNCC 2017d, where a link is provided to the webpage introducing these questions on the *Solidarity* website).²⁴⁴ As shown in Table 1 below (which presents summary versions of the original questions and which I organise into strategic and tactical categories), I identify two of the questions as primarily related to strategy because they interrogate what ecosocialist long-term goals should be while the rest are more concerned with tactical issues.²⁴⁵ Responses to these questions by members of *Solidarity's* Ecosocialist Working Group and by two other authors were also published on its website (refer to Becker 2014, Bloom 2015, Engel-DeMauro 2015 and Feeley 2015), and all the respondents make interesting points; however, it is the questions themselves that I discuss in more detail as they reveal the kinds of issues that are contested amongst ecosocialists. Question 5, which relates to what ideas ecosocialists should be raising in the climate movement, for instance, emerges in a number of guises in the debates published on *Climate & Capitalism*, including in debates that emerged after the publication of Naomi Klein's 2014 book, *This Changes Everything: Capitalism vs The Climate*.

but that ecosocialists are generally members of groups engaged in a variety of social justice and ecological struggles and work within wide coalitions.

²⁴⁴ *Solidarity* describes itself as "a socialist, feminist, anti-racist organization" (Solidarity 2017).

²⁴⁵ There is not always a clear demarcation between strategic and tactical questions, however; for example, Question 2 in Table 1 has both strategic and tactical elements.

Table 1: Summary of ecosocialist questions regarding strategy and tactics

<p>Questions about Strategy</p> <ul style="list-style-type: none"> (1) 'How does ecosocialist politics differ from traditional socialist and labor politics?' (2) 'What role do science, technology, labor productivity and production play in the transition from capitalism to ecosocialism, also in an ecosocialist society after the transition?'
<p>Questions about Tactics</p> <ul style="list-style-type: none"> (3) 'How does the ecological crisis affect the orientation of [workers'] unions and their place in the class struggle?' (4) 'How, if scaling back production is necessary, will ecosocialist strategy remain committed to meeting human needs?' (5) 'What ideas do ecosocialists raise in the climate change movement? Are James Hansen's proposals (for example, advocacy of a "carbon tax" rather than "cap and trade") in some form useful for ecosocialist transitional demands, or are they simply an attempt to solve the ecological crisis within the context of capitalism?' (6) 'What kinds of cooperatives that can be built today might be able to teach us something about a post-capitalist world? What role, if any, should ecosocialists seek to play in these communities?' (7) 'Is it possible for left governments in developing countries to pursue a more egalitarian social project, in the context of a global economy that continues to be dependent on extractivism, without violating basic ecological principles – in particular the demands of their own indigenous populations?'

Source: *Solidarity* (2015)

Ecosocialist strategy – Building a powerful climate movement

John Bellamy Foster and Brett Clark (2015) address both liberal and radical critiques of Klein's book about climate change, pointing out that liberal critics aim to 'rein in her arguments' and either impose interpretations that 'refashion her message' so that it does not question the permanency of capitalism or, failing that, they attempt to discredit her analysis entirely on the grounds that it is 'simplistic' or 'idealistic' (with one critic even referring to Klein as an 'idiot'). Addressing socialist critiques that Klein's argument is liberal rather than radical and that it has little to say about the working class and does not go far enough in its critique of capitalism (Smith

2014; Smith & Foster 2017), Foster and Clark (2015) argue that Klein's ambivalent stance that fails to go as far as calling for socialism is strategic:

Her aim at present is clearly confined to the urgent and strategic – if more limited – one of making the broad case for System Change Not Climate Change. Millions of people, she believes, are crossing or are on the brink of crossing the river of fire. Capitalism, they charge, is now obsolete, since it is no longer compatible either with our survival as a species or our welfare as individual human beings.... It is this burgeoning global movement that is now demanding anti-capitalist and post-capitalist solutions. Klein sees herself merely as the people's megaphone in this respect.²⁴⁶

(Foster & Clark 2015)

Similar acknowledgements of the importance of Klein's contribution to the climate justice movement, and the wider global justice movement, are made by other ecosocialists (for example, Foran 2014; Hornick 2015, 2017; Riddell 2014). Brad Hornick's discussion of the importance of Klein's work emphasises its revolutionary nature with reference to Marx's critique of philosophy:

Marx's *Theses on Feuerbach* is a critique of both idealism and mechanical materialism. The theme that reconciles the two – the admonition to make history while studying it – is a crucial aspect of the revolutionary formula. The notion that Klein's book emerges out of personal and political engagement is a confirmation that 'radical' analysis includes the type of embeddedness in praxis that Marx so brilliantly defined in this piece as well as in the *Economic and Philosophical Manuscripts* of 1844.

(Hornick 2015)

The positive responses to Klein's work indicate that ecosocialists are serious about participating in the wider project of building a strong counter-hegemonic movement and also that they understand that Klein's authority within the 'Blockadia' (protest) movement derives from her dual role as activist-theorist and that they respect her for this. Unlike some of her socialist critics, Klein is an organic intellectual in that she is embedded and emotionally involved in the struggles she writes about, and Brad Hornick suggests that this is what all ecosocialists should be doing:

What I would like to emphasize in this review, is that Klein's mode of writing as embodied experience within the crisis itself grants it considerable power, and at the same time marks a departure from a problem central to both the mainstream natural and social sciences

²⁴⁶ As Foster and Clark (2015) explain at the beginning of the article, 'crossing the river of fire' refers to William Morris's metaphor for becoming "a critic of capital as a system."

and to the relationship between the two. This is a difference between impersonal, objective observation and a kind of praxis – the street-level fighter’s interweaving of theory and practice. While there are many academic writers who have paid their dues and produced much more exacting accounts of the connections between ecology and capitalism, few can say that they have contributed so directly to a relatively consequential ‘movement,’ (amidst the miserable dearth of North American radical organizing), whilst doing so.

(Hornick 2015)

Hornick’s argument links back to Chris Williams’s (2013) discussion of tactics, where he advises ecosocialists to ‘dive into the resistance as and where it exists,’ and also demonstrates a determined effort to shift ecosocialist debates in directions that are less sectarian. However, the matter of ‘principled opposition’ emerges more forcefully when it comes to other tactical questions, such as the debate discussed in the first case study (below) on whether or not ecosocialists should support market mechanisms such as carbon trading and carbon taxes.

Case Study 1: Ecosocialist tactics - Are market mechanisms acceptable transitional demands?

One of the reasons that ecosocialists engage in debates about whether or not to support climate movement actor calls for market measures such as carbon trading and carbon taxes as a means of reducing GHG emissions (as represented by Question 5 in Table 1) is because these are perceived as ‘false solutions’ that may lead to *trasformismo*. Avoiding *trasformismo* involves being alert to what de Lucia (2014, p. 67) refers to as the ‘boundary line’ between ‘system-critical’ and ‘system-friendly’ interpretations and approaches to key contested concepts within climate politics, and can also be applied to strategic and tactical choices. The debate about carbon trading between prominent climate justice advocate Robin Hahnel and ecosocialist Nicholas Davenport demonstrates that activists working within ecosocialist organisations are clearly aware of the dangers of *trasformismo*, as well as of the need to take actions that further their larger goal of working towards the establishment of ecosocialism rather than supporting actions that logically imply further entrenching capitalist relations of production.

The debate analysed here originated with an article written by Hahnel and published on 4 November 2013 in the journal *New Politics*. In this article, entitled ‘An Open Letter to the Climate Justice Movement,’ Hahnel advocates that the climate justice movement support international carbon cap-and-trade market mechanisms, a measure that goes against climate justice movement assessments that market based climate change solutions are ‘false solutions’ (Dietz 2014b).²⁴⁷ Hahnel’s stated reasons for adopting this position despite being “a long-time advocate of both climate justice and fundamental system change” include the urgency of what the science is telling us about the need “to reduce global [GHG] emissions dramatically over the next decade” and the reality of what is politically feasible within the context of a global capitalist system which, Hahnel contends, is not likely to be seriously challenged in the immediate future. As Patrick Bond (2013) points out, this was not the first time Hahnel had raised this issue, having previously published at least two articles (Hahnel 2012a, 2012b) that had sparked similar debates within the climate justice movement. Hahnel’s 2013 letter again provoked responses and debates among climate justice movement actors, and Davenport’s (2014) response is discussed in detail as it not only refutes Hahnel’s argument at a theoretical and empirical level, it also demonstrates the sort of nuanced analysis that informs ecosocialist understandings of system-critical tactics that are essential for avoiding *trasformismo*.²⁴⁸

²⁴⁷ Climate justice activist publications such as *Hoodwinked in the Hothouse: False Solutions to Climate Change* (RTNA & CTW), *The COP19 Guide to Corporate Lobbying: Climate crooks and the Polish government’s partners in crime* (Tansey 2013), and the *Indigenous Peoples’ Guide to Climate Change* (earthpeoples.org) classify as false a range of market based solutions, such as carbon trading and ‘flexible mechanisms’ like the CDM and REDD+ projects. Solutions that depend on the development and implementation of sophisticated and expensive technology (such as ‘clean coal’ power plants, carbon capture and storage, nuclear energy, ‘natural gas’, waste incinerators, and ‘biogenic fuels’ such as biomass) are also perceived to be false, as are solutions that will result in displacing populations and destroying food production in order to produce agrofuels or build megadams for the production of ‘clean energy’. As de Lucia (2014, p. 80) summarises, “False solutions are generally seen to imply also a high level of centralization, economic, political, structural and technical” (de Lucia 2014, p. 80).

²⁴⁸ Davenport was only one of many to respond to Hahnel’s proposal; other responses included an online debate between Hahnel and well-known South African-based climate justice activist, Patrick Bond that occurred on *ZNet*’s debate webpage. Bond (2013) also responded to Hahnel’s proposal in an article published in *Capitalism Nature Socialism*, while environmental activist Gar Lipow responded with a *Grist* article entitled ‘Zombie

While respectful of Hahnel as a fellow climate justice advocate, Davenport's response is nevertheless detailed and uncompromising on the specific issues Hahnel raises as he outlines the basis on which system-critical activists should decide what tactics and programs they adopt. Davenport's article, significantly entitled '*Reform or revolution* for the environmental movement?' (emphasis added), concedes that revolutionaries operating within the context of capitalist societies are engaged in struggles for reforms most of the time; however, echoing Williams (2013), Davenport states that "The question is how to struggle for reforms in a revolutionary way." This question leads Davenport to distinguish between reformist tactics "based on *accommodation to the class enemy*" (emphasis in original) and class-independent revolutionary tactics. Davenport (2014) critiques reformist tactics such the one proposed by Hahnel because they constitute capitalist policy solutions, which it is not the task of the Left to work towards.²⁴⁹ Davenport points out that "It is bourgeois legislators' job to figure out how to implement... concessions within the framework of bourgeois policy – we should not do their jobs for them." He argues that supporting capitalist policy solutions such as carbon trading mechanisms entrenches capitalist relations of production rather than leading to the qualitative changes required to create sustainable and democratic, socially just societies. Support for such measures also limits the political imagination of the Left "to what's possible within the capitalist system and pull[s] our politics rightwards" rather than affirming the message that "another world is possible." In addition, reformist tactics promote the view that "progressive bourgeois legislators" are allies, and that the capitalist state is a neutral agent that can be negotiated with, rather than demonstrating that change will only come from confronting "the state and the capitalist class." Most importantly, Davenport argues, if one is concerned about addressing the issue of global warming, such policies are, contrary to their claims, unrealistic: the actual implementation of carbon trading markets has not only failed

carbon trading's latest resurrection' (posted online on 15 January 2014) as well as with a more detailed argument in his article, 'Shutting Down the Fog Machine' (which was published in the *Review of Radical Political Economics*).

²⁴⁹ Davenport makes the additional point that Hahnel is not the only academic of the Left to call for a "shift towards reformist politics" because of the urgent need to take action on mitigating further climate change.

to reduce GHG emissions, it has enriched major polluters, and this is an inevitable outcome in a capitalist system. In summary, Davenport argues that “it is unrealistic to expect capitalist governments to implement carbon trading schemes in accordance with... [Hahnel’s] principles given that their purpose is to appear as if they are doing something while in fact they defend the continuation of business as usual for as long as possible.”²⁵⁰ Ultimately, Davenport points out, reformist tactics misdiagnose the causes of the ecological crisis: “...the climate crisis and other ecological problems are rooted in the structure [of the] capitalist system (not just a few sectors of capital, like the fossil-fuel industry, but the system itself), and cannot be reformed away.”²⁵¹

In contrast to reformist tactics that support capitalist solutions, Davenport argues that revolutionary tactics attempting to deal with the issues of the environmental degradation and climate crisis caused by capitalism can be developed with a more nuanced understanding “of the *dynamics of power* in capitalism and socialism” (emphasis added):

...although in a capitalist system the capitalist class is always in power, at no point is the relationship of forces between classes static. The working class, the capitalist class, and other social forces are always vying for power and influence within the system and its units – within workplaces, neighbourhoods, and various levels of government, for example. Reforms, in general, happen when the working class or oppressed groups gain enough power to force the hand of the ruling class – putting them in the position of either implementing the reform or losing needed credibility and influence.

It is this understanding of power relations, and of the importance of class struggle, that informs the development and implementation of revolutionary tactics that are,

²⁵⁰ As Davenport (2014) notes, “To his credit, Hahnel does not water down his proposal in order to make it palatable to the capitalist class and the politicians that serve them. He insists that a global cap-and-trade scheme would have mandatory emissions caps for all countries based on science, differential emissions caps based on principles of global justice, and enforcement mechanisms to prevent cheating and bogus carbon credits.” However, Davenport also points out that it is precisely because this is a ‘principled proposal’ that “The ruling class would never agree to... [it as this] would amount to voluntarily abandoning imperialism and agreeing to destroy huge sectors of highly profitable capital.”

²⁵¹ For discussions about the failure of carbon markets to decrease GHG emissions, refer to Böhm, Misoczky and Moog (2012); Bond (2011); Lohmann (2010); and Pearse and Böhm (2014). For a Marxist ecosocialist analysis of why and how capitalist (or market-based) solutions inevitably favour capital accumulation at the expense of workers and other subordinate groups, refer to Burkett (2014).

first and foremost, ‘class independent’ in that they “build popular power independently from state institutions” and are thus capable of “confront[ing] the state and the capitalist class.” Davenport’s distinctions between reformist and revolutionary tactics are summarised in Table 2 (below).

Table 2: Reformist vs Revolutionary Tactics

Reformist tactics	Revolutionary tactics
Do not challenge hegemonic capitalist ideology	Aim to change participants’ consciousness and encourage activists “to think and act outside the confines of capitalist ideology.”
Entrench capitalist relations of production	Lead to qualitative changes required to create sustainable and democratic, socially just societies
Limit the political imagination of the Left to what is possible within a capitalist system	Affirm the message that another world is possible; “promote solidarity and draw attention to the conflict between the movement and the capitalist system.”
Promote the view that reformist legislators are allies	Are, first and foremost, ‘class independent’; “build popular power independently from state institutions” and are thus capable of “confront[ing] the state and the capitalist class.”
Promote the view that the capitalist state is a neutral agent that can be negotiated with	Demonstrate that change can only come from confronting the state and the capitalist class
Promote what are erroneously perceived as ‘realistic’ solutions	Recognise that mainstream solutions are false: they do not, in fact, reduce GHG emissions but enrich major polluters instead. This is a fundamental feature of the capitalist system.
Misdiagnose the root of the ecological crisis, which lies within the structure of capitalist relations, not just in some economic sectors	In the case of mitigating anthropogenic global warming, “uncompromisingly demand a shift away from fossil fuels, done in a way that meets human needs.”
See capital’s power as hegemonic and immovable; do not understand the class struggle.	Have a nuanced understanding of the dynamics of power in capitalism and socialism, recognising that “reforms, in general, happen when the working class or oppressed groups gain enough power to force the hand of the ruling class...”
Solutions are individualistic	Encourage people to think in collective rather than in individual terms and focus on principles that unite working-class people
Solutions ignore the needs of the working class and subaltern groups	Address the “immediate concerns of working-class people” while making connections between workers’ struggles and struggles to counter “ecological destruction and the overcoming of racial, national, and gender- and sexuality-based oppressions.”
Solutions do not challenge existing power relations	Typically argue “for stances that are further to the left of those in the mainstream of the movement, while posing them in a way that is relatable and responsive to the movement’s aims,”

Source: Summary of Davenport (2014)

Given his argument that supporting carbon trading lends legitimacy to reformist policies that fail (and that ultimately *must* fail) to achieve their stated goal of reducing GHG emissions, Davenport makes a compelling case that the radical climate justice movement should not support this policy or any other market mechanisms proposed as solutions to anthropogenic global warming. This position, however, raises interesting questions about whether it is *ever* progressive to support reforms – an issue that crucially relates to questions about the labour movement (refer to Questions 1 and 3 in Table 1) and that the left faced during the 2015 US oil workers’ strike. In the arguments he presents against Hahnel’s proposal, Davenport (2014) also makes the important point that revolutionary strategy is necessarily situational, and that a programme that is reformist in one situation may be revolutionary in another. Such nuances are significant when analysing specific tactical decisions such as the decision by SCNCC members to support the 2015 US oil refinery workers’ strike, which constitutes the subject of the second case study analysed below.

Case Study 2: Ecosocialist tactics – The question of class struggle

Renowned Marxist industrial relations scholar Richard Hyman (1975) argues that trade unions have traditionally been problematic institutions for Marxists. Originating in Britain as self-organised alliances of craft tradespeople who banded together to defend their rights as workers, trade unions were transformed (frequently forcibly) into compliant institutions that are routinely used by management (with support from both the state and, often, the union leadership) to control the working class.²⁵² From their inception, trade unions have inhabited a terrain that is fraught with contradictions arising from their orientation as workers’ collectives operating within the context of a system of capitalist relations that is implicitly accepted by the trade unions and the vast majority of the workers that

²⁵² Hyman (1975, pp. 43 - 44) traces the earliest unions back to the eighteenth century. These early unions (more accurately described as ‘traditional craft societies’) “often emerged spontaneously from the informal ‘occupational community’ of a craft group”, met at the local pub, and had unilateral control over the rules of their trade. The emergence of large employers and the development of a national labour market (facilitated by the establishment of railways in the 1840s) undermined the effectiveness of these early unions and led ultimately to “the consolidation of trade unionism on a national basis” (*ibid.*, p. 45).

constitute their membership. This fundamental contradiction has many additional contradictory flow-on effects: for example, while trade unions are, by their nature, situated in a conflictual relationship with capital (workers can only make wage gains or improvements to their working conditions at the expense of capital), the membership's dependence on having work if they are to survive forces workers (through their defensive organisations, the trade unions) to negotiate with employers and co-operate in their own continued exploitation. However, while trade unions are undoubtedly institutions that are firmly entrenched within the capitalist system in the advanced capitalist economies, and have undergone processes that have rendered them organisations that are used by the ruling class and its managers (including trade union officials) to control labour, they are nevertheless the organisations of the working class whose members cannot be ignored by any counterhegemonic movement that wants to develop broad-based support for its project. The ecosocialist argument that it is important to support workers' struggles as part of the fight against climate change is merely an extension of the ideas of Marx, Engels, Lenin, Gramsci and other Marxists that the working class is the key agent of social change within a capitalist system.²⁵³ Ecosocialist efforts to ally with workers, as evidenced in their decision to support the 2015 oil workers' strike, is especially important in periods of organic crisis; as Hyman argues:

In periods of unrest and instability, the presence in positions of influence of workers with a developed oppositional ideology can be of immense significance. When engaged in collective struggle, workers are most susceptible to the appeal of new world-views: the 'deviant' elements in working-class attitudes are thrust to the fore, while the conventional assumptions of 'official' society momentarily lose their hold.

(Hyman 1975, pp. 176 - 177)

It is not surprising, then, that one of SCNCC's key demands is to: "Provide full employment, transitioning millions from military and fossil-fuel related jobs to union

²⁵³ Notwithstanding the debates about whether or not trade union officials and privileged sections of the working class (the so-called 'labour aristocracy') act in the interests of capital and thereby wilfully betray the working class as a whole, more nuanced analyses of trade unionism identify underdeveloped class consciousness among the majority of the rank-and-file membership as the main reason explaining why workers are not more militant (for example, see Hyman 1975, McIlroy 2014). Gramsci's notions of the consensual aspects of hegemony are also relevant when considering this issue.

jobs creating a renewable energy infrastructure. In the fight to save the environment, working people must not be left behind” (SCNCC n.d., p. 9).

Ecosocialist strategy involves fighting for both short- and medium-term reforms with a long-term aim of fundamental system change, and the reformist measure calling for full employment is justified as follows:

In any case, we can never expect workers to support the changes needed to save the planet and their children unless they are provided with other jobs, at least as good with at least equivalent pay and benefits, as the ones they are losing

(SCNCC n.d., p. 9)

However, given the aims of the climate justice movement to shut down the fossil fuel industry and demand a transition to the use of renewable energy, some climate justice activists questioned the tactic of supporting the United Steelworkers Union oil workers’ strike (Johnson 2015; Rugh 2015).

While support for striking workers employed in the fossil fuel industry may appear incongruous because it seems to contradict ecosocialist demands to “uncompromisingly... shift away from fossil fuels” (as Davenport suggests), several climate justice movement actors presented strong arguments for supporting this industrial action. Citing historian and labour activist Jeremy Brecher, for instance, Trish Kahle (2014) argues that ecosocialists need to “break down the false ‘jobs versus environment’ dichotomy” and act on the understanding that “the exploitation of workers and the degradation of the environment go hand in hand” so that workers and environmentalists must “evolve toward a common program and a common vision.” Kahle furthermore argues that it is particularly important for climate justice activists to engage with workers employed in energy industries because these workers “occupy a special place at the nexus of capitalism’s ecological destruction and human exploitation, a place that is simultaneously powerful and vulnerable.” The position that energy workers occupy in a capitalist system is:

Powerful, because energy sets the entire economic system in motion, and any action taken by the workers responsible for producing this energy quickly fans out to every sector of the economy. And vulnerable because the radical realignment of energy production they have the power to affect can threaten their livelihoods.

(Kahle 2014)

Workers in the energy industry thus “have the power to bring our planet back from the tipping point,” although this can only be achieved if energy workers regain control of their organisations from “a labor leadership that appears to be willing to risk the future of our species for slightly relieved unemployment” (Kahle 2014). In this respect, Kahle (2015) argued that ecosocialist support for the 2015 oil workers’ strike demanding safer working conditions was crucial:

...for ecosocialists, it’s not just the immediate demands of workers that are important, but the long-term ramifications of a victory. Workers have power if they act collectively. Just as they can stop oil production (30,000 workers have the capacity to halt 64 percent of the nation’s refining capacity), they can halt capitalism’s assault on the planet. To be sure, there’s not a direct line between a strike for better working conditions and a strike for new energy and a more just economy. It is the job of ecosocialists to demonstrate the deep connection between the two, to offer an analysis and strategy of struggle that speaks to workers’ lived experiences.

(Kahle 2015)

Referring to the oil workers’ strike as containing within it “the seeds of an alternative: class-struggle environmentalism,” Kahle suggested several concrete actions that climate justice activists could engage in to support the oil workers’ action, including donating to strike funds, participating in picket lines, and inviting workers to talk about the strike at community meetings and on campuses. Such support would have both a short-term goal of helping workers win the strike but also a longer-term goal of helping unions to become stronger and perhaps even join in the struggle to mitigate climate change and environmental destruction. The SCNCC website provided links to Kahle’s articles, and SCNCC members joined picket lines in support of the striking workers (Rugh 2015). Several other environmental, trade union and left-leaning groups such as the California Nurses Association, Labor Network for Sustainability, 350.org, the Sierra Club, and Oil Change International also expressed their support for what developed into the largest oil refinery workers’ strike in 35 years (Johnson 2015; Light 2015; Rugh 2015; Turnbull 2015; Uehlein 2015).

While the SCNCC (n.d. p. 9) demand for “...full employment, transitioning millions from military and fossil-fuel related jobs to union jobs creating a renewable energy

infrastructure” is, arguably, better served by confining their collaborations to other trade union organisations that better align with this aim - such as Trade Unions for Energy Democracy (TUED n.d.) and the International Transport Workers’ Federation (ITF n.d.; see also Felli 2014), confining actions to terrains in which everyone already agrees does not extend the climate justice movement, and the challenge is to create a broad popular movement that is powerful enough to fight for a habitable planet. Moreover, an application of Davenport’s guidelines for determining whether a course of action is progressive or not demonstrates that SCNCC support of the oil workers’ strike was overwhelmingly progressive: by participating in picket lines, SCNCC members not only concretely demonstrated a nuanced understanding of the dynamics of power relations in capitalist societies as well as their solidarity with the workers and their concern for workers’ well-being and safety, they also created possibilities for further collaborations between ecosocialists, workers, and communities by demonstrating that such broad coalitions are possible.

By supporting the oil workers, SCNCC members also participated in a collective action that by its nature challenged the power of the fossil fuel industry (albeit to a limited extent) and contributed towards efforts to strengthen future challenges to this power. As Kahle argues, the power of the fossil fuel industry needs to be challenged on many different fronts:

As significant as winning better working conditions would be – for the workers themselves, as well as for the communities around the refineries – it’s also important to consider what the long-term effects of this strike could be in terms of increasing militancy and organization. Strong unions can fight for jobs and the planet, but we still have a long way to go. To defeat the oil industry ecologically, we need to defeat it ideologically, politically, socially, economically: this strike is a step in that direction, and that’s why it’s so important to win.

(Kahle 2015)

In addition to these arguments for supporting workers in the fossil fuel industry in their challenges to capital, while more overtly progressive campaigns such as the UK *Campaign Against Climate Change*’s call for ‘One Million Climate Jobs’ funded by the public sector (Empson 2010) are undoubtedly a great step forward in the fight for a just transition to a sustainable energy system they are not completely unproblematic

as they exist in the context of an emerging focus on a so-called 'blue-green' alliance between 'blue collar' workers and the 'green' (environmental) movement. Such blue-green alliances (and related notions of a 'green economy', 'green technology', 'green jobs' and 'sustainable development') can be easily co-opted into supporting, legitimising and entrenching liberal and neoliberal agendas to create new avenues for capital accumulation at the expense of both nature and subordinate classes and groups. Returning to de Lucia's distinction between 'system-critical' and 'system-friendly' approaches, the current conjuncture is particularly perilous for radical climate justice activists seeking real solutions to the organic crisis given the struggle within the capitalist class between the faction supporting the long-established vested interests of fossil fuels and the faction supporting an emerging 'green capitalism,' which could gain much-needed leverage if it succeeds in mobilising a broad support base comprised of subordinate classes and groups to build a re-formed historic bloc legitimising capital's continued expansion.²⁵⁴

The new 'green economy' thus constitutes an arena of struggle between those forces working towards building a new hegemony and those trying to build a counterhegemonic movement. This battle is being waged in both *discursive* terms (in a war of position) involving the interpretations of contested concepts such as 'sustainable development,' 'green economy,' 'green jobs,' 'climate justice,' a 'just transition,' and 'system change' and on the terrain of political action (which could be described in terms of a limited 'war of manoeuvre' with respect to the development of appropriate strategies and tactics). The war of position is crucial as some interpretations of the contested concepts could result in a 'reformed green capitalism' that furthers the neoliberal agenda of capital accumulation without, in the worst case scenario, even actually making the changes required to stop further anthropogenic global warming and general environmental degradation.²⁵⁵ This could

²⁵⁴ Refer to Tansey (2013) and Mittler (2014) for discussions of the dominance of fossil fuel interests in global politics.

²⁵⁵ Boehnert (2015) provides a brief overview of contested meanings of the 'green economy', with a useful summary of different perspectives on 'Economic approaches to the environment' in Figure 2 in her article. Refer to Goodman & Salleh (2013) for a detailed discussion of the years of effort by a variety of UN institutions, business interests, CSOs and trade union groups to develop a global consensus around the idea of

open the path to an intensified assault on, and the deeper economic exploitation of, both nature and subordinate classes.

The 'green capitalism' route is also highly likely to lead to dangerous (but very profitable) large-scale projects such as attempts to 'sequester' carbon and, even more dangerously, large-scale geoengineering projects.²⁵⁶ Thus, while intellectuals of the left argue that capitalism is incapable of addressing climate change and see 'saving the planet' as a catalyst around which to organise in order to achieve a more socially just world order, the need to address climate change could equally be the uniting issue that justifies and legitimises the power of global capital (at least until the planet is no longer habitable) while, as Goodman and Salleh (2014) note, simultaneously opening up much-needed avenues of new 'economic growth' and capital accumulation (see also Boehnert 2015, Burkett 2014, Elgot 2015 and Kotz 2009). Moreover, de Lucia (2014, p. 68) points out that at the same time as rejuvenating the profitability of global capitalism, the concerted attempt to present market mechanisms and technological fixes as the only possible solutions to the climate crisis simultaneously "... 'aims to forestall more radical critiques that argue that capitalism and sustainability are inimical' (Paterson 2010: 345). Antagonistic forces are thus either embraced as potential partners or ejected from the realm of

a shift towards 'green capitalism' to facilitate continued economic growth. McIntyre and Hillard (2012) also provide an important analysis of the way in which, contrary to common misperceptions, the original 'New Deal' in the US constituted a victory for capital. Their argument could be extended to contemporary efforts to achieve a 'new green deal,' which are likely to have similar results.

²⁵⁶ Huttunen, Skytén and Hilden (2015) identify a clearly discernible trend of increasing attention being paid in recent academic literature to the development of large-scale geoengineering 'governing regimes' and also to ways of gaining popular consent for more radical geoengineering projects involving Solar Radiation Management (SRM); for example, refer to Lloyd & Oppenheimer (2014); Research Highlights (2014); Bipartisan Policy Center Task Force on Climate Remediation Research (n.d.); the US National Academies Press 2015 report, *Climate Intervention: Reflecting Sunlight to Cool Earth*; and Wright, Teagle & Feetham (2014). It is also interesting to note the way language referring to geoengineering has changed over time (presumably in an attempt to defuse the negative connotations of the term), with 'geoengineering' being replaced by 'climate engineering,' then 'climate manipulation,' and finally 'climate remediation.' Many scientists argue that large-scale geoengineering projects such as SRM are dangerous because they lock humanity into long-term pathways of attempting to manipulate the planet's complex, dynamic, and imperfectly-understood climate system while the regional short-term and global long-term effects of these attempts are potentially extremely disruptive but, even more worryingly, largely unknown (Barrett, Timothy, Millner *et al.* 2014; Cairns 2014; Keller, Fend & Oschlies 2014).

the reasonable,” and it is thus that *transformismo* is attempted. The task of the TCC and its allies is therefore to achieve consensus on the notion that only ‘green capitalism’ and its ‘green innovation’ and ‘green technology’ can ‘save’ the planet, and there are factions within capital that clearly recognise this and are working towards this end (Goodman & Salleh 2013).²⁵⁷ The UNFCCC’s annual COPs constitute an important forum in which the project to promote ‘green capitalism’ is advanced, and ecosocialist contributions to discussions amongst climate justice activists who were planning actions for the 2015 COP-21 in Paris, which is the subject of the third case study, demonstrate a profound awareness of this issue.

Case Study 3: Ecosocialist tactics – Shutting down COP-21

In the lead-up to COP-21 in Paris in 2015, ecosocialists participated in several discussions about possible actions that could be taken by climate justice activists given the likely official outcomes of the meeting and the prevailing balance of forces.²⁵⁸ Anticipating that any agreement emanating from COP-21 would, like previous official outcomes, promote the implementation of ‘false solutions’ such as the extension of carbon markets and the further commodification of nature (Carbon Trade Watch 2015; Temper & Gilbertson 2015), radical climate justice activists debated how best to approach these climate talks in a way that avoided both legitimising the official negotiations and making useless appeals to authorities to adopt more effective and socially just policies. As the editors of the *Carbon Trade Watch* publication discussing the forthcoming COP-21 put it:

So what can we do? We can start by recognizing that the climate negotiations are making things worse. We need to think beyond the UNFCCC and to stand in active solidarity with those who are at the frontlines of fighting the climate and environmental criminals while defending their territories.

(Carbon Trade Watch 2015, p. 5)

²⁵⁷ For example, refer to Facer, Nahman & Audouin (2014) for a comprehensive summary of three contending discourses (which they label as ‘incrementalist’, ‘reformist’ and ‘transformative’) on how capitalism could respond to global warming.

²⁵⁸ Debates and decisions about appropriate climate justice movement strategies and tactics for COP-21 were published on a dedicated SCNCC website (SCNCC 2015b) as well as in various activist documents (for example, Carbon Trade Watch 2015; Foran 2015; SCNCC 2015a, 2015c; Temper & Gilbertson 2015).

*Coalition Climat*²¹, the coalition of approximately 130 activist organisations established to co-ordinate activities in France for the duration of COP-21, held a strategy meeting in Tunis on 23 and 24 March 2015 (Bond 2015, p. 22). Ecosocialist Patrick Bond (pp. 23 – 27) critiqued the prevailing approaches that sacrificed political analysis in their attempt to seek unity at this strategising meeting, and argued that a more appropriate strategy would be that proposed by Pat Mooney to ‘shut down’ the official COP, which many radical climate justice activists refer to as a ‘Conference of Polluters,’ on the grounds that ‘no deal is better than a bad deal.’ In a series of email exchanges that occurred between March and June 2015 and that was compiled and distributed by SCNCC member John Foran (2015), ecosocialists continued to discuss the option of shutting down the official climate talks. Most of the participants in these discussions supported this action, but some raised concerns about the ability to succeed given that the French state would be out in force to pre-empt such actions and also because it was unlikely that a broad enough consensus within the climate movement would agree to this strategy. Another concern raised was that if it acted on such an aim, a failure to shut down the official talks would have a demoralising effect on the broader climate justice movement.

While *Climate Coalition*²¹ ultimately decided not to attempt to shut down the official talks, a variety of other mass actions were planned with the aim of building a stronger climate movement that would ‘move through’ Paris2015. Referring to ‘Paris2015’ was symbolically important because, in rejecting the label ‘COP-21,’ activists emphasised that the climate justice movement had convened in Paris not to lend any legitimacy to the official negotiations but to build their independent climate movement in order to continue local struggles for climate justice after the anticipated failure of COP-21 (Temper & Gilberston 2015). The major planned mass actions for Paris2015 adopted the theme that “red lines are not for crossing” and *Coalition Climat*²¹ decided that the main mass action, the ‘December 12’ (‘D12’) red line protest, would occur at the end of the talks (SCNCC 2015c). By holding the main action at the end of the talks, the climate justice movement would have “the last word”: instead of making more futile calls for climate justice that official negotiators would ignore (thus demoralising activists), the climate justice movement would

instead denounce the ineffective and damaging decisions of the official COP-21 delegates after they reached the agreement that was predicted to ‘burn the planet’ and, as climate justice activist Pablo Salon cautioned, was likely to result in ‘setting a course for geoengineering’ (Foran 2015; SCNCC 2015c).

The activist plan was to introduce five ‘red lines’ that should not be crossed (because they represent ‘minimal necessities for a liveable planet’) in mass marches on the eve of the COP-21 opening, and to have the final word at the end of the official negotiations:

...when the deal inevitably crosses these red lines, people encircle the summit and in a show of collective power and shaming, refuse to let the delegates return home to carry out the criminal agreement in their communities.²⁵⁹

(SCNCC 2015c)

In addition to these major mass protest actions at the beginning and end of the official talks, *Coalition Climat21* also planned to facilitate and host a series of other events around the city of Paris, including the decentralised *Climate Games* involving acts of nonviolent civil disobedience by small, self-organised groups participating in acts of ‘creative resistance’ (see McDonald 2015); daily presentations by social movement activists and a variety of civil society groups at the alternative *Climate Action Zone* during the second week of the official negotiations; and many stalls, events and discussions at a two-day alternative climate summit, *Alternatiba*, held on 5 and 6 December in Montreuil, a working class Parisian suburb (SCNCC 2015a).

When the French government declared a state of emergency in the aftermath of the 13 November 2015 Paris terror attacks and banned all planned climate movement mass mobilisations, *Coalition Climat21* organised alternative actions (such as the ‘human chain’ of 29 November 2015 along the march’s original planned trajectory). Moreover, displaying a dedication that suggests that calls to try to shut down the official talks may not have been as unpopular as *Coalition Climat21* organisers feared, many activists defied the government ban on mass protests so that the D12

²⁵⁹ Suggestions for relevant red lines not to be crossed in the discussion paper circulated by SCNCC (2015c) included GHG emission reduction targets; equity; finance; justice; and compliance.

actions went ahead (as did many of the other nonviolent civil disobedience actions) even in the face of increased police repression (de Moor 2015). This spontaneous show of defiance by climate movement activists, coupled with the realities of the rapidly unfolding planetary-scale ecological catastrophe that climate change is just a part of, suggests that future ecosocialist arguments for less accommodative tactics may garner more widespread support within the climate movement. My evaluation of ecosocialist strengths and weaknesses, which is discussed in the next and final chapter, is therefore both partial (based on the limitations of the issues I have been able to research) and necessarily transient (based on a fast-changing 'present' while we live in an age defined by an organic crisis where the balance of forces can shift very rapidly and dramatically as events unfold).

Chapter Nine: General Discussion and Conclusion

“Ecosocialism or barbarism: There is no third way”

(Subtitle of *Climate & Capitalism* website)

Material capabilities: Biosphere vs Capital and Capital vs the Climate Justice Movement

In this dissertation I deploy a modified version of the critical GPE neo-Gramscian perspective, which I refer to as the *MHS Redux II*, to analyse the origins and ongoing causes of the interrelated ecological, economic, political and social crises humanity now finds itself dealing with. My analysis demonstrates the power of this heuristic device to appropriately analyse the complex challenges of the Anthropocene using a critical Marxist perspective, and I conclude that the human species is at a very dangerous point in its history. This conclusion becomes evident because, instead of treating the biosphere as a sub-system of the global political economy (as many analysts and official policymakers do), the *MHS Redux II* enables me to take the findings of my academic colleagues, the natural scientists, seriously and reverse that normative assumption: in the analysis that deploys the categories comprising the *MHS Redux II*, the biosphere is the larger context within which the global political economy is embedded. Moreover, the *MHS Redux II* provides tools that facilitate an analysis that takes into account the fact that our Earth’s life forms (including humans) and natural systems are in a dialectical relationship whereby they constitute and co-shape the integrated Earth System that they are all a part of. In analyses conducted using the *MHS Redux II*, the biosphere is therefore also given ‘agency’ insofar as it is a force that reacts in accordance with physical laws that are not subject to the complete control of humans.

It is important to emphasise the point that while capitalist production, trade and consumption patterns damage and disrupt the Earth’s ecosystems at a planetary level and have had the cumulative result of propelling the Earth into a new geological epoch, there is no evidence to suggest that humans can develop and deploy technologies powerful and sensitive enough to dominate and control natural processes at the Earth System level in a predetermined way that suits capitalist (and,

more importantly, human) aims. As Clive Hamilton explains, "...in the transition from the Holocene to the Anthropocene new forces have been unleashed that we can only ever understand imperfectly, and regulate even less" (Hamilton 2017, p. 70). Despite the temporary 'wins' of vested interests in the official climate change negotiations that prevent the adoption of policies and regulations that would be effective in eradicating GHG emissions, therefore, I conclude that in this particular battle between capital and the biosphere, capital cannot 'win' in the long term. While humanity is locked into inaction because of the inability of capital to escape the contradictions that are inherent to its existence, with the logic of capital contradicting the logic of physical laws, the biosphere responds in accordance with the laws of physics (as all physical systems must). For example, the biosphere responds to the energy imbalances caused by GHG emissions with what are still perhaps erroneously perceived as 'extreme' weather events, such as the increasingly severe droughts and floods that are occurring more frequently and threatening the lives and livelihoods of many people.

At the same time that official government representatives and policymakers have, under pressure from business interests, proved incapable of effectively addressing the global warming crisis, civil society actors have been building a climate movement to try to generate enough pressure to force the officials charged with protecting them to address it. However, the climate movement is very weak, and the climate justice wing of the climate movement is even weaker. Ecosocialists constitute only a very small minority within what is already a minority of the global population that actively engages with the issue of climate change (as Ian Angus consistently reminds his audiences), which means that they do not have much power in terms either of material capabilities or of 'membership.' Given what is at stake, however, even if the balance of forces are such that any rational analysis of the situation indicates that the climate justice movement will lose, activists understand that they have no option but to try to work against the logic of capital, and they frequently apply Gramsci's motto, "pessimism of the intellect, optimism of the will," to the attitude needed when addressing the issue of global warming. As Ian Angus also routinely reminds his audiences at the end of his presentations, "If we fight, we may lose; if we don't

fight, we *will* lose.” The determination and tenacity among ecosocialists are strengths they share with many other climate justice activists; like other climate justice activists, however, they also face many challenges.

Ecosocialist strengths and challenges: a partial and transient evaluation

The fact that the ecosocialist suggestions to try to shut down the COP-21 negotiations were not adopted by *Coalition Climat21* demonstrates that the ecosocialist contingent’s influence within the leadership of the broader climate justice movement is limited; it does not, however, necessarily demonstrate that ecosocialists have no influence at all in the broader climate justice movement. As discussed in Chapter 8, the redlines mass action that was planned for the end of the Paris 2015 climate negotiations was meant to send a strong message that the climate justice movement was dissatisfied with the official outcomes of COP-21, and the decision to take this action was perhaps at least partially motivated by ecosocialist inputs in the discussions about appropriate strategies and tactics.

Moreover, while ecosocialists calls for more radical actions at Paris2015 were not adopted, this did not lead to sectarian divisions and ecosocialists continued to circulate information about the actions that were planned, with some ecosocialists also attending Paris2015 and participating in these actions. This demonstrates that ecosocialists adopt a disciplined approach that prioritises solidarity and tries to avoid traditional ‘left’ sectarianism as they participate in the struggles for climate justice, even if their preferences for stronger actions are not adopted. While ecosocialist ideas about appropriate tactics for building a counterhegemonic climate justice movement have not yet been widely adopted, their understanding of the kinds of oppositional tactics that are necessary if they are to achieve the aim of furthering the project of building a post-capitalist ecological socialist society is well developed, as evidenced in my case study discussions and illustrated in Figure 12 that follows the discussion below. There is, however, scope for building on these ecosocialist strengths, with the most urgent task being to focus more efforts on promoting and building alternatives to the current system.

Social facts and competing ecosocialist ideas

One of the greatest strengths of ecosocialist theorists and activists is their powerful and clear analysis of the causes of capital's organic crisis, including the global warming crisis. As discussed in Chapters 7 and 8, third-stage ecosocialists apply classical Marxism's analytical tools in order to explain why system change is necessary, and many of these ideas are now commonly discussed among activists within the climate justice movement. To the extent that ecosocialist ideas have become more prominent, they have replaced the previously prevailing 'social facts' that 'there is no alternative' to capitalism (to quote one of Margaret Thatcher's famous sayings).

Ecosocialists' familiarity with the Marxist notion of the dialectic has also enabled them to develop a sound understanding of the profound implications of the Anthropocene. To Marxists, there is no difficulty in understanding the Anthropocene as a 'phase shift' whereby quantitative changes to natural systems and cycles caused by the normal operations of capital have reached a point where they have cumulatively resulted in a qualitative change in the Earth System. It is therefore not surprising that it was Ian Angus's book, *Facing the Anthropocene: Fossil capitalism and the crisis of the Earth System* (2016), that Clive Hamilton (2017) singled out to praise for the clarity with which it explains the implications of this new geological epoch. Ian Angus's focus on the Anthropocene is very valuable, and the concept and its implications are now widely discussed amongst climate justice movement activists and are also gaining a wider audience among the readership of articles on ecosocialist websites. Despite evidence that ecosocialist ideas are becoming more prevalent within the climate justice movement, however, it would be false to conclude that they have made inroads within the broader society, where 'social facts' generally continue to prevail (although there is a growing 'common sense' view that there are widespread problems with the current system). On the other hand, ecosocialist writings have some influence, as is evidenced by many of the ideas prevailing among climate movement activists and also by how these ideas changed the course of my own research, as I briefly discuss below.

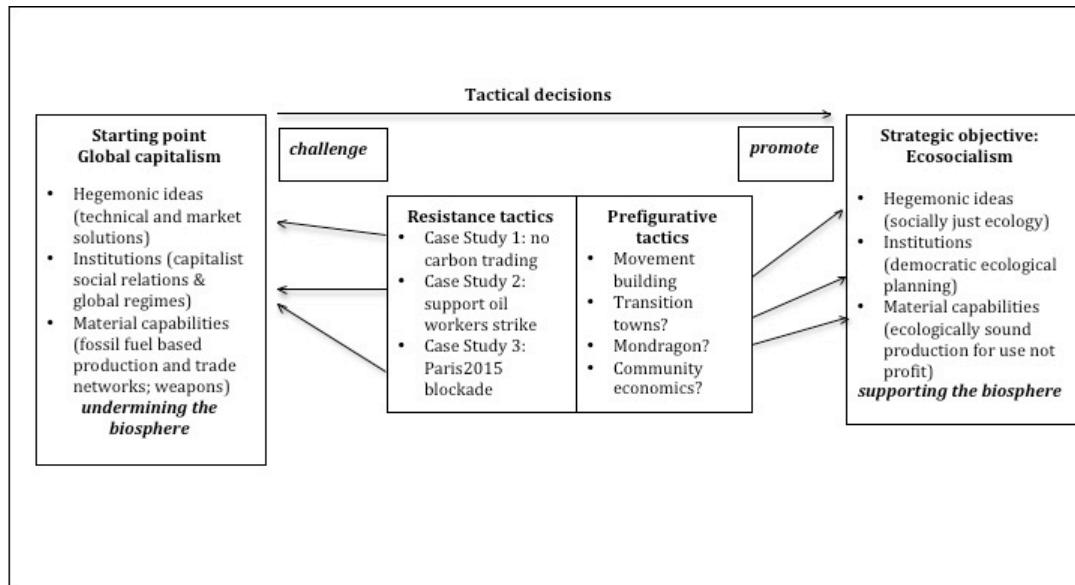
An anecdote: How reading ecosocialist articles about the ecological crisis changed the course of my studies

When I originally enrolled as a PhD candidate, I intended to research a very different topic than the one I ultimately decided to embark on. The 2012 Occupy movement protests had aroused my interest in different forms of democracy, and I intended to study the sort of consensus based democratic politics practised within the Occupy camps. My research on the Occupy movement involved reading articles on various alternative websites and, after some time of reading these websites, I started noticing more and more articles about climate change. Some of these articles had quite alarming titles, and I began reading them. It was not long before I became convinced that global warming is the most important issue of our times (in fact, I agree with many other analysts who argue that it is the most important challenge the human species has ever had to address) and that this issue should be the primary focus of my research. After consulting with my supervisor, I changed my topic to research ecosocialist responses to the anthropogenic global warming crisis, as I had read many of their articles about climate change on a variety of alternative websites and had found the arguments presented in their analyses compelling. This suggests that while it is important to maintain specifically ecosocialist websites that climate justice activists can regularly consult to stay up to date with the latest climate science and developments within the climate movement, it is important that ecosocialists simultaneously continue to publish their articles on other websites in order to reach a wider audience and be read by people who are less familiar with their ideas. However, a more widespread acceptance of ecosocialist ideas that challenge prevailing social facts faces formidable obstacles given that the dominant institutions (such as the mass media and educational institutions) discourage system-critical thinking. In their discussions of strategies and tactics, ecosocialists try to address the challenges of how to move from where we are right now (that is, in a capitalist world order where neoliberalising forces are hegemonic) to where they believe we should be (building an ecosocialist civilization), as summarised in Figure 12 and discussed in more detail below.

Revisiting ecosocialist tactics: what role ‘prefiguration’?

As discussed in Chapter 8, ecosocialists regularly engage in debates about which strategies and tactics would best suit the purposes of realising the necessary immediate reforms required to gain time given the urgency of the global warming crisis while still furthering their long-term goal of achieving the system change they believe is necessary. While the first and second case studies I analyse demonstrate that ecosocialists have a sophisticated understanding of the sorts of oppositional tactics that are appropriate for furthering their long-term goals, the third case study illustrates that these tactics do not necessarily garner support within the wider climate justice movement. Ecosocialist suggestions to ‘shut down’ the official COP-21 climate negotiations are an instance of what Naomi Klein (2014) refers to as ‘Blockadia’ – a nonviolent civil disobedience act that blocks actions that damage the planet. Like earlier SMOs, such as the US ‘Movement for a New Society’ that was active in the 1970s and adopted the strategy ‘oppose and propose’ (Cornell 2011), in addition to the more system-critical ‘Blockadia’ actions it planned, *Coalition Climat21* also organised the establishment of *Alternatiba*, a ‘village of alternatives’ where the climate movement held its own climate summit. Ecosocialists seem to find the idea of prefigurative projects such as *Alternatiba* problematic, however, and it is perhaps a potentially important tactic that deserves more discussion and debate. Figure 12 provides a schematic summary of strategies and tactics ecosocialists could adopt. It depicts a range of tactical decisions from those that challenge the current hegemonic bloc (refer to the left hand side of the figure) to examples of tactics that could promote the building of new institutions within the current disintegrating world order (refer to the right hand side of the figure).

Figure 12: Summary of Strategies and Tactics available to Ecosocialists



While the role that prefigurative projects could play in ecosocialist politics was raised in *Solidarity's* discussion about strategies and tactics in Chapter 8 (refer to Table 1, Question 6), as noted above it is not an issue that generates much discussion amongst ecosocialists. Most ecosocialists affirm the need for *visions* of an alternative to capitalism (an issue that is understood in both strategic and tactical terms); however, the extent to which ecosocialists should participate in prefigurative actions and projects that try to build alternatives in the present is contested. Most ecosocialist understandings seem to narrowly limit the idea of prefiguration to individualistic, personal 'lifestyle' changes such as riding bicycles, adopting vegetarian or vegan eating habits, and changing light bulbs. On the occasions that I asked ecosocialists I interviewed about their views of the role prefiguration could play in effecting system change, their response was always that while they have nothing against such personal lifestyle changes, people adopting these practices should recognise that these individual practices will not, in and of themselves, achieve the social transformation necessary to maintain a habitable planet – a position I agree with wholeheartedly. Limiting the definition of prefiguration to encompass only changes in individual behaviour is questionable, however, because there are other examples of *collective* prefigurative projects that could be both educational and help to create nascent communities for future collective action.

While not without their problems and challenges, examples of collective prefigurative projects that ecosocialists could consider include the Transition Town movement and the European 'Alternatiba' projects and events organised by various climate movement actors; these projects are briefly described below.

The Transition Town movement

Originally pursued because its founders were concerned that peak oil, climate change and economic instability would create conditions forcing people to change how they live, the Transition Town movement aims to create 'resilient communities' by encouraging the people living in their towns and cities to transition "to more sustainable lifestyles around localisation, co-operation, organic food production and energy descent into renewable and reduced energy systems" (Weston 2014, pp. 185 – 186). While the Transition Town movement is not without its problems (with the notion of 'resilience' being a contested term which is largely used to justify adaptation practices rather than pursuing the large-scale systemic changes necessary to mitigate climate change and environmental destruction), it nevertheless presents a model that could form the basis of alternative collective prefigurative projects.²⁶⁰ For example, ecosocialist political theorist Del Weston (2014, p. 183) argues that:

Without a clear way forward, I believe that we must validate and support all attempts to break from the capitalist social relations of production and the imperatives of capitalism and work towards solidarity amongst alternatives. By doing so, by embracing and supporting the Transition Towns, the Abalimi Bezekhavas, the Campesino movements, we are building a solidarity across alternatives to capitalism, showing examples of how it is possible for people to become empowered and positively involved in making their own history, that it is possible to form new values in which we are comfortable and at home.... We must at every opportunity show that capitalism is not the only viable political and economic system, that there are coherent and current alternatives to it.²⁶¹

²⁶⁰ Naomi Klein suggests substituting the term 'regenerative' for 'resilient' to avoid the latter's associations with passive processes that imply "the ability to absorb blows and get back up" (Klein 2014, p. 447).

²⁶¹ Del Weston's reputation amongst ecosocialists is evident in that her book, *The political economy of global warming: The terminal crisis*, is listed by Ian Angus (2017) as

The Transition Town movement has the decided advantage that it works within local communities that remain integrated within the broader society, unlike other groups such as the *The Bruderhof*, the religious prefigurative intentional community that Joel Kovel (2007) discusses as a model that ecosocialists can draw lessons from. Members of this collective problematically seem to live in isolated communities that are largely divorced from the wider society, and I would agree with ecosocialist views that are sceptical of the utility of such projects that entail withdrawing from mainstream society.²⁶² This is because, while isolated communities may find it easier to adopt sustainable living practices, they are unlikely to attract ‘ordinary people’ to participate in collective actions that promote solidarity and develop new ways of thinking and doing things. It seems logical that only prefigurative projects that are located within, and welcome the participation of, the wider community would have any chance of furthering the aim of building a new society. There are many reasons why I think that properly developed collective prefigurative projects are not only valuable but necessary at this point in time, one of which is their indispensable regenerative function at a time when climate movement actors are experiencing much stress. The value of participating in activities with others in a prefigurative ‘alternative village’ became evident to me when I attended the Paris2015 events, and I recount those experiences as an illustration of what I mean when I talk about the regenerative function of such projects.

Alternatiba

Alternatiba was a temporary Paris2015 project that showcased many ideas of socially just solutions to climate change while simultaneously providing an important space within which climate movement activists could experience a sociality and conviviality that was completely absent from the ‘Climate Generations Areas’ set aside for ‘civil society’ at the official COP-21 talks. Attending this two-day event,

one of the ‘Essential Books on Marxism and Ecology’ on the *Climate & Capitalism* website.

²⁶² Kovel (2007, p. 211) emphasises that the Bruderhof model does not fully meet the requirements of an ecosocialist prefigurative community “...because an ecosocialist society must be fully democratic, and not the province of any religious interpretation; and, more specifically, because the Bruderhof are not actually ecocentric in their orientation.”

which provided an enjoyable (albeit temporary) prefigurative experience at a time that was exceedingly stressful given the tensions generated by the French state's decision to declare a state of emergency and ban planned climate movement actions, was both motivating and restored my beliefs that people are caring and that they can, indeed, achieve great things when they co-operate. I had found the previous days' experiences at Paris2015 very stressful: on my first day in Paris, for instance, I accidentally got myself teargassed. I was halfway up the stairs leading from the metro to the Place de la Republique to join other Paris2015 climate movement participants when the metro tunnel filled with teargas. The situation was chaotic, with people running down the stairs to escape police who were chasing them colliding with commuters who had just disembarked from the train, and with everyone coughing and rubbing their streaming eyes, which were burning as a result of the teargas that had filled the metro tunnel.

While my visits to the 'Climate Generations Areas' in Le Bourget, where the official COP-21 negotiations were taking place, were not as dramatic, they were not pleasant experiences. Members of 'civil society' disembarking from the trains had to catch special buses to get to the venue and, once there, were treated suspiciously and subjected to security check as thorough as those conducted at airports. Inside the sterile 'Climate Generations Areas' there were few food and beverage stalls, and people had to wait in long queues to buy a limited range of what was advertised as being on sale (with many products, including coffee, being sold out early in the day). In contrast, a friend of mine who had registered to attend the official talks as a representative of an NGO said that there was no shortage of free and excellent food in the areas where the negotiations were taking place (and where the members of 'civil society' were not allowed entry). This seemed to me a microcosm of the inequality and injustice that characterises all of life in a world dominated by global capital, and perhaps it was the contrasts between the official 'Climate Generations Areas' and the *Alternatiba* experience that made such a deep impression on me when I arrived at the 'village of alternatives' in Montreuil, a working class suburb of Paris.

Guardedly emerging from the Montreuil metro, my heart sank when someone wearing an official-looking fluorescent vest approached me. To my relief and delight, the person who approached me turned out to be a volunteer working with *Coalition Climat21* who, rather than teargassing me, smiled broadly and welcomed me, handing me a map and pointing out the location of various stalls and facilities. There were no security checks and no police in sight; instead, there was a relaxed, festive atmosphere with many stalls selling locally produced foods and beverages. The food was not only abundant, it was also very fresh and healthy and reasonably priced. As well as people who were clearly climate activists, there were also many families with babies and young children and a seemingly wide spectrum of people from all walks of life. In addition to the festivities and stalls, there were a number of events one could attend, such as a presentation by the TUE and another by the UK group advocating 'One Million Climate Jobs.' *Alternatiba's* value lay in how it incorporated interesting learning experiences while simultaneously promoting a general atmosphere of convivial solidarity and also demonstrating what can be achieved by people working collectively and cooperatively despite their limited material resources. Another important feature of *Alternatiba* during Paris2015 was the way in which it was embedded in the local community of Montreuil, attracting local residents and inviting them to join in the organised activities.

My experiences at the Paris2015 *Alternatiba* event reinforced my interest in the value of prefigurative projects to supplement (not replace) direct actions aimed at challenging existing power structures. Ecosocialists participating in suitable community projects could engage in discussions that build on participants' 'common sense' while simultaneously building solidarity and prefiguring the kind of social relations they want to build. Such projects may also provide the resources that people will need (particularly with respect to practices of solidarity) as the effects of global warming continue to unfold in 'extreme weather'-related disasters that will force people to rely on their own resources because governments will be unlikely to respond to them effectively – particularly when these disasters affect the most disadvantaged people who are perceived as 'disposable' and have no political power, as happened in the aftermaths of Hurricanes Katrina and Sandy in the US and

as is happening at the time of this writing, with Hurricane Irma unleashing its force in the US and the Caribbean.²⁶³

‘Extreme weather’ disasters: August and September 2017

As I complete the final revisions of this dissertation, media attention has shifted from the floods in Texas resulting from the unprecedented amount of precipitation Hurricane Harvey brought to the region (Milman 2017a) to the ongoing catastrophic effects of Hurricane Irma, the strongest hurricane recorded to date in the Atlantic Ocean (Staletovich 2017). Barbuda PM Gaston Browne said that Hurricane Irma has reduced the entire island of Barbuda to ‘literally rubble’ and rendered it ‘barely inhabitable’ (Boyle 2017) as it proceeds in its path over other Caribbean islands towards Florida, many of whose communities are under mandatory evacuation orders (Mazzei, Hanks & Smiley 2017).²⁶⁴ The reporting of these and other ‘natural disasters’ is very uneven and indicative of the way in which already disadvantaged groups also have to suffer climate injustice: at the same time that media outlets reported extensively on the property damage and the tens of people who lost their lives in the floods in Texas, there were very few reports on the deaths of an estimated 1,200 people in Asia as a result of the unprecedented severity of the flooding due to the Monsoon combined with other factors such as sea level rise and urbanization (Ratcliffe 2017; Siddique 2017).

The Asian floods are affecting more than 40 million people in India, Bangladesh and Nepal and have also devastated crops in the region, resulting in severe food shortages (Ratcliffe 2017; Siddique 2017).²⁶⁵ I refer to these catastrophic impacts on

²⁶³ Governor of Florida, Rick Scott, has warned residents of the state that “At some point, people are going to be on their own, so to speak, for a period of time during which the flooding and raining and the wind bear down on them, and they need to be prepared if they are in that path and haven’t taken some action to get themselves in a less dangerous position” (Luscombe, Pilkington & Smith 2017). However, as Pilkington (2017) notes, some people he interviewed simply do not have the resources to follow Governor Scott’s advice and “get themselves in a less dangerous position.”

²⁶⁴ At the time of writing, the Caribbean islands already devastated by Hurricane Irma a few hours previously were about to be pounded by another ‘category five’ hurricane, Hurricane Jose (Farrer 2017).

²⁶⁵ *The Guardian* is to be commended for publishing a few articles that report on climate injustices, such as that by Pilkington (2017) entitled *A tale of two Irmas: rich Miami ready for tumult as poor Miami waits and hopes*.

disadvantaged and marginalized groups as 'climate injustices' because although scientists emphasise that climate change did not cause the Atlantic hurricanes or the Asian floods, it is very likely that the warmer oceans and the larger amounts of water vapor in the air, compounded by higher sea levels, have exacerbated the intensity and effects of these naturally occurring events (Nutticelli 2017; Watts 2017a, 2017b, 2017c). Another great climate injustice is evident in how many of the Global North tourists and foreign nationals on the Caribbean islands affected by Hurricane Irma have been evacuated (Simpson 2017) while the poverty-stricken local inhabitants of these islands do not have the option of escaping to a safer place. This is in stark contrast to the nearly 7 million people who have been told to evacuate in preparation for Hurricane Irma's landfall in the US, with various evacuation shelters and other support systems in place to help many of them do this (Slawson & Phipps 2017). However, it should be noted that while relatively affluent individuals in the US have the resources to ensure that they can escape such 'extreme weather' catastrophes, the poor do not have such a wide range of options and must rely on the state for support, which is only available to a limited extent (Pilkington 2017).²⁶⁶ These dramatic illustrations of the ways in which the effects of anthropogenic global warming compound the problems of the poor and the marginalized reinforce ecosocialist arguments that we now face the prospect of barbarism. In a 5 September 2017 article republished on *Climate & Capitalism*, Hearse argues that these events lead

...to a clear conclusion for strategy. We have to fight for a realistic international strategy to limit climate change, but also we need to fight for climate change victims and refugees, and of course to prevent millions more becoming victims and refugees.

(Hearse 2017)

In addition to the human suffering resulting from these 'extreme weather' disasters, the past few weeks have also witnessed a dangerous geopolitical crisis unfolding as US reactions to North Korea's nuclear weapons program escalate the dangers of a potentially catastrophic war on the Korean peninsula (Bisley 2017; Habib 2017). It is

²⁶⁶ For example, a man *en route* to Cuba on a cruise ship who got stranded in Miami as a result of Hurricane Irma simply bought a car to get himself and his family out of danger (Patterson 2017).

impossible to keep track of a world that is characterized by new dramatic conflicts, disasters and crises as they unfold on an almost daily basis, much less to try to analyse the reactions these developments may provoke from battered populations, and this constitutes one of the limitations of this study, as discussed further below.

Contributions and limitations of the study

As noted above, one of the limitations of this study is that it can have no clear 'cut-off' point; it is the beginning of an enormous research project that will always, by its nature, be incomplete. In attempting to study current events as they unfold, and to try to identify the dynamics of how different aspects of the Earth System (human systems and the biosphere) influence one another, the study oversimplifies the complexities involved since many of the ideas I had wanted to incorporate had to be omitted because of time and space limitations. Another limitation of the study is its narrow focus on some aspects of the North American ecosocialist coalition; again, time and space limitations did not permit me to investigate European and UK ecosocialist groups.

Despite these limitations, I believe that the study makes three contributions that may be of interest to critical GPE theorists: it presents a modified version of the neo-Gramscian critical perspective, *the MHS Redux II* and demonstrates how it can be used to analyse the current organic crisis of global capitalism that includes its relationship to the biosphere it is embedded in; it also locates the climate movement and its radical climate justice wing within the wider context of not only other traditional GPE actors such as states, international institutions and business interests, but also in the context of the challenges of living in the Anthropocene. These contributions are preliminary and would benefit from refinement and extension. I now turn to a more detailed, albeit brief, evaluation of my own attempts to more fully incorporate the Earth System in this research project by using the *MHS Redux II* analytical perspective.

The *MHS Redux II* and Academic practice in the Anthropocene

My arguments that the reality of the Anthropocene suggest a need for ecosocialist theorists and activists to reconsider some of their positions and practices regarding prefigurative politics extend also to suggestions that academics should consider changing the ways in which they conduct their research. As I note in Chapter 1, I have attended several academic conferences in the course of conducting this research project, and I have been both surprised and shocked to discover that very few academics in the field of IR and GPE pay any attention to the global warming crisis, or seem to be aware of the profound significance of the Anthropocene. I am not the only academic to notice this 'gap' in IR and GPE scholarship; as Harrington (2016, pp. 486 - 487) notes:

While over 1000 articles on the Anthropocene have been written since the term was first coined in 2000, IR remains remarkably silent. The 2015 International Studies Association (ISA) Annual Conference, the largest annual event in the discipline, contained over 6000 presentations. Only one paper abstract explicitly mentioned the Anthropocene. This, despite the fact that, according to the latest TRIP survey of IR Scholars, the most important foreign policy issue the world faces over the next ten years is global climate change. Curiously, though, the same poll revealed that only 2.44% of the 3977 scholars surveyed listed the international/global environment as their main area of research.

My own understanding of the significance of the Anthropocene, which developed over time as my research project progressed (and particularly after reading Ian Angus's and Clive Hamilton's books on the topic) led me to modify the neo-Gramscian perspective so that it places the Earth System at the centre of my analysis by incorporating the biosphere as an 'agent' in its own right. While I believe that the *MHS Redux II* helped me to retain a focus on how human systems (such as the global political economy) and natural systems (the biosphere) interact dynamically, this research project is only an initial and tentative attempt to develop and deploy a GPE perspective that aspires to meet the challenge of conducting academic work in the

Anthropocene. As noted in a previous quotation, which I repeat here to emphasise its significance,

The social sciences taught in our universities – including those that ‘take the environment into account’ – must now be regarded as Holocene disciplines. The process of reinventing them – so that what is taught in arts faculties is true to what has emerged in science faculties – will be a sustained and arduous intellectual enterprise.

(Hamilton 2017, p. 129)

The current research project constitutes an initial step in the ‘arduous intellectual enterprise’ of developing Anthropocene social science perspectives to inform research that may help humanity to meet the unfolding challenges with as much wisdom, dignity and compassion as possible. A next step in this intellectual enterprise which, as Hamilton argues, entails a sustained effort on the part of academics, may partially comprise of constructive critiques of this research project, which I welcome.

As Robert Cox famously stated, “Theory is always for some one and for some purpose,” and one of my major aims in conducting this research has been to join Clive Hamilton in raising the alarm amongst my own community of GPE scholars in the academy that there is an urgent need to focus our research efforts on the greatest challenges humanity has ever had to face: to find ways of ensuring the survival of a civilised humanity that acts with compassion and respects the life and dignity of all of us. It is particularly important to become engaged because these challenges arise not because of natural disasters that are beyond our control, but because of social systems that we collectively create and have the power to either continue pursuing or to change (albeit presently under conditions defined by very unequal power struggles between different classes and social groups).

Appendix I: Interview Schedule

Questions about participant

1. What is your preferred name or pseudonym?
2. What is your role in the group (including 'normal activities')?
3. Could you please tell me a bit about your personal history with the group (e.g. length of membership, whether you are a founding member, why you joined if not a founding member)?

Questions about the ecosocialist group

4. What is the group's history (e.g. when founded, by whom)?
5. What is the group's general ideology and aims?
6. What is the group's organisational structure?
7. How prominently do prefigurative and democratic practices feature in the group's aims and practices?
8. Can you tell me about the group's current activities and campaigns, and plans for future activities?
9. Does this group work with, or have alliances with, other groups (either within the ecosocialist movement or with other groups in the wider global justice movement)?

Questions about the participant's evaluation of the group

10. What are your views on the strengths and weaknesses of your group?
11. In your view, what are the pros and cons of any of this group's alliances (if any)?
12. In your view, where does your group fit in within the wider global social justice movement as a whole?
13. In your view, how does your group relate to other key players such as local civil society groups working on environmentally-related issues, national political parties and governments, global organisations such as the United Nations, and national and international environmental Civil Society Organisations?
14. Are you aware of any pressing issues facing the ecosocialist movement that require further research?
15. Can you think of other groups/anyone else I could speak to about ecosocialism?

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